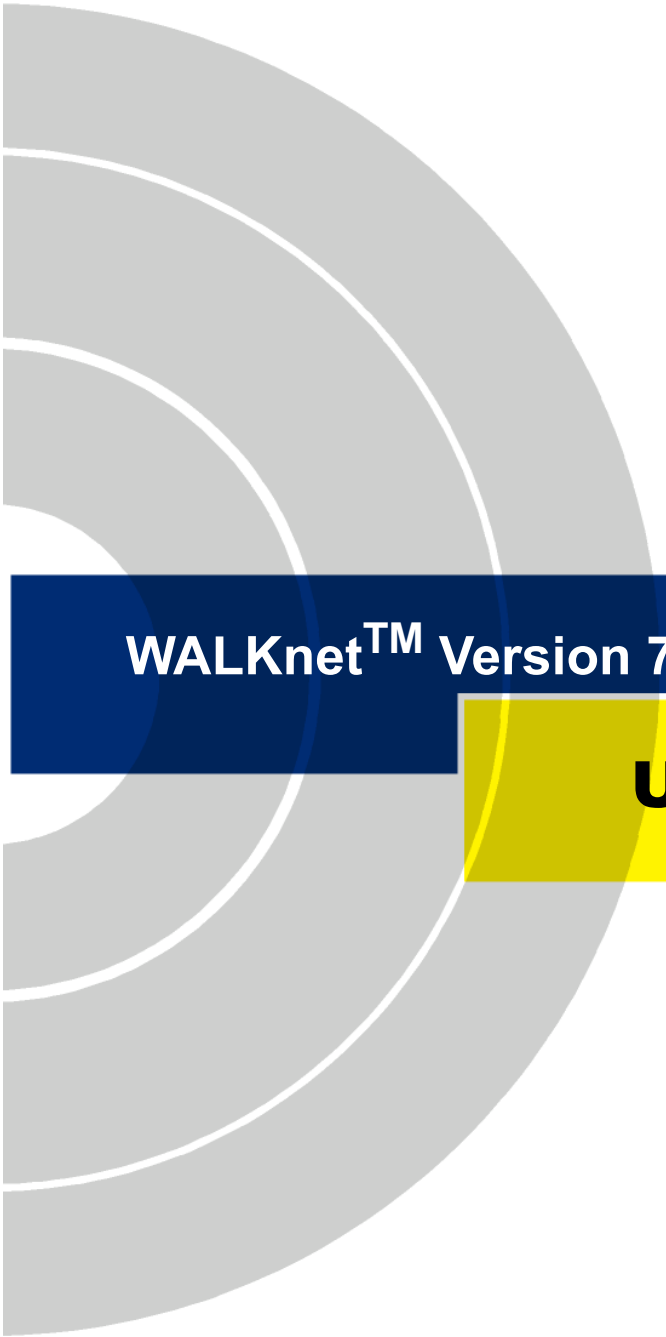

WALKnet™ Version 7.7

User's Manual

Version 7.7
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Contents

Chapter 1 - Introduction to WALKnet

Overview 1-2

WALKair 1000 System 1-2

WALKair 3000 Shelf-Based System 1-3

W3000 Stand-Alone BS-BU System 1-3

System Requirements 1-5

Installing WALKnet 1-7

Installing WALKnet on Windows 1-7

Installing WALKnet on UNIX 1-8

Post installation 1-12

Connecting WALKnet to a Database 1-13

Product Support 1-13

Connecting to Microsoft Access 1-14

Connecting to Oracle8i 1-14

Database Size Requirements 1-15

WALKnet Customization for UNIX 1-15

Defining the Environmental Variable for Log Files 1-16

SNMP MIBs Supported by WALKnet 1-19

Chapter 2 - Getting Started

Starting WALKnet 2-2

WALKnet Main Window 2-4

Title Bar 2-4

Menu Bar 2-4

Toolbar 2-10

Status Bar 2-11

Network Navigation Tree 2-12

Workspace 2-13

WALKnet Navigation Model 2-15

Horizontal Navigation 2-19

Error Information 2-22

Updating Information 2-23

Chapter 3 - Map Management

Introduction 3-2

Creating Map Background Images 3-2

Creating a New Map 3-3

Changing a Map Background 3-4

Opening an Existing Map 3-5

Saving Maps 3-6

Saving a New Map 3-6

Saving a Map with a New Name 3-7

Chapter 4 - Cell Configuration

Workflow 4-2

Cell Management 4-3

Creating a New Cell 4-3

Displaying Cell View 4-4

Editing and Deleting Cells 4-6

Sector and Shelf Management 4-8

Sector Management 4-8

Shelf Management 4-19

Base Station Basic Unit Management 4-30

WALKair 1000 Base Station Basic Unit Management 4-30

WALKair 3000 Shelf Base Station Basic Unit Management 4-38

WALKair 3000 Stand-Alone Base Station Basic Unit Management 4-49

Terminal Station Basic Unit Management 4-58

WALKair 1000 Terminal Station Basic Unit Management 4-58

WALKair 3000 Terminal Station Basic Unit Management 4-66

Frequency Planning 4-77

WALKair 1000 Frequency Planning 4-77

WALKair 3000 Frequency Planning 4-79

Configuring the RFU and Antenna 4-82

WALKair 1000 RFU and Antenna Configuration from Sector View 4-82

WALKair 3000 RFU and Antenna Configuration from Sector View 4-87

Configuring RFU and Antenna Parameters from BS-BU View (WALKair 1000 only) 4-91

Configuring TS-BU RFU & and Antenna Parameters (WALKair 1000 only) 4-93

Chapter 5 - Shelf Management

Hot Swap Controller Management 5-2

Creating Hot Swap Controller Cards 5-2

Displaying HSC View 5-2

Deleting HSCs 5-5

Modifying HSC Properties 5-5

Moving HSC Slot Positions 5-7

Main Processing Unit (MPU) Management 5-8

Displaying MPU View 5-8

Deleting MPUs 5-10
Modifying MPU Properties 5-10
Saving an MPU Configuration 5-13
Uploading and Downloading an MPU Configuration 5-14
Accessing Software Reset Management 5-16
Moving MPU Slot Positions 5-16
Network Interface Unit Management 5-17
Creating Network Interface Units 5-17
Displaying ATM-NIU View 5-17
Displaying 12xE1-NIU View 5-21
Displaying E3-NIU View 5-25
Deleting NIUs 5-28
Modifying NIU Properties 5-28
Moving NIU Slot Positions 5-31
Accessing Software Reset Management 5-31
Configuring ATM or E1 or E3 Interfaces 5-31
Intermediate Frequency Unit (IFU) Management 5-32
Displaying IFU View 5-32
Power Supply Unit (PSU) Management 5-35
Displaying PSU Edit Properties 5-35
Power Input Board (PIB) Management 5-37
Displaying PIB Properties 5-37
Fan Management 5-39
Displaying Fan Edit properties 5-39

Chapter 6 - Telecom Port Configuration

WALKair 1000 Interfaces Configuration Parameters 6-2

Changing the Configured Port Type 6-3

Modifying Port Configuration Parameters 6-5

WALKair 3000 Interfaces Configuration Parameters 6-17

W3000 BS-BU Interfaces Configuration 6-17

W3000 TS-BU Interfaces Configuration 6-37

Chapter 7 - System Services Configuration

WALKair 1000 License Management 7-2

WALKair 1000 Leased Line Service Management 7-4

Adding Leased Line Services 7-6

Editing Leased Line Services 7-9

Deleting Leased Line Services 7-10

WALKair 1000 V5 Configuration 7-11

V5 Interface Configuration 7-12

V5 Subscribers 7-19

V5 Global Parameters 7-25

WALKair 1000 Frame Relay and Ethernet Configuration 7-26

Frame Relay Overview 7-26

Ethernet Overview 7-26

Configuring Frame Relay and Ethernet 7-26

Frame Relay Logical Port Configuration 7-27

Frame Relay/Ethernet Service Configuration 7-34

WALKair 3000 Client Management 7-47

Adding Clients 7-50

Editing Clients 7-52

Deleting Clients 7-53

WALKair 3000 IP SLA Management 7-55

Adding IP SLA 7-60

Editing IP SLAs 7-64

Deleting IP SLAs 7-66

WALKair 3000 TDM SLA Management 7-68

Adding TDM SLAs 7-72

Editing TDM SLAs 7-75

Deleting TDM SLAs 7-76

WALKair 3000 Service Management 7-78

Adding IP Services 7-81

Editing IP Services 7-86

Deleting IP Services 7-86

Adding TDM Services 7-88

Editing TDM Services 7-92

Deleting a TDM Service 7-94

WALKair 3000 Show Clients 7-95

Chapter 8 - Performance Monitoring

WALKair 1000 Air Performance Monitoring 8-2

Air Performance Summary 8-2

Detailed Air Performance 8-6

WALKair 3000 Air Performance Monitoring 8-11

Air Performance Summary 8-11

Detailed Air Performance 8-15

V5 Call Statistics 8-20

Performance Data Collection 8-24

Viewing the Collection Process 8-26

Configuring Performance Data Collection 8-35

Frame Relay Statistics 8-39

Port Signaling Statistics 8-39

End Point Traffic Statistics 8-46

WALKair 3000 IP SLA Performance Monitoring 8-50

Accessing IP SLA Performance Monitoring 8-50

Executing WALKair 3000 IP SLA Performance Monitoring 8-51

Chapter 9 - Security Management

Modifying the System Password 9-2

Specifying User Types 9-3

Adding New Users 9-4

Editing Users 9-5

Deleting Users 9-5

Chapter 10 - Utilities

Authorized Managers 10-2

Software Download 10-7

Multiple BS-BU Download 10-7

Single Device Download 10-16

Configuration Upload and Download 10-19

WALKair 1000 Configuration Upload and Download 10-19

Creating Configuration Files 10-21

Loading Configuration 10-23

WALKair 3000 Shelf Configuration Upload and Download 10-24

WALKair 3000 Stand-Alone BS-BU Configuration Upload and Download 10-25

Versions and Reset Management 10-27

WALKair 1000 Software Versions 10-27

WALKair 3000 Software Versions 10-33

Performing BER Tests 10-44

Configuring SNMP Parameters 10-48

Chapter 11 - HPOV Customization

Integration Overview 11-2

Alarms Correlation and Object Status Coloring 11-3

Disabling a Correlation Policy 11-9

Access to WALKair Base Station Element View 11-12

Chapter 12 - The WALKnet Alarm Browser

Overview 12-2

Alarm Browser Windows 12-4

Manipulating Alarms 12-9

Sorting Alarms 12-9

Acknowledging Alarms 12-11

Deleting Alarms 12-13

Saving an Alarms File 12-14

Opening an Alarms File 12-16

Requesting Active Alarms for a Device 12-17

Closing the WALKnet Alarm Browser Windows 12-24

Appendix A - WALKair 1000 Trap Descriptions

Appendix B - WALKair 3000 Trap Descriptions

General Comments B-2
Telecom Interface Traps B-3
E1 Port / Services Traps B-4
E3 Port / Services Traps B-5
STM1 Port / Services Traps B-7
Devices Traps B-8
Hardware Traps B-9
IFU Traps B-10
Radio Link Traps B-11
RFU Traps B-12
IF MUX Traps B-13
Software Traps B-14
Configuration Traps B-16
Sector Traps B-17
MPU Communication Traps B-18
Shelf Traps B-19
BS-BU Redundancy Traps B-21
Service/SLA/Client Traps B-22
Clock Control Traps B-23
General Traps B-25

Appendix C - WALKair 1000 Error Messages

WALKair 1000 Error Messages C-2

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1

Chapter 1 - Introduction to WALKnet

In This Chapter

- "Overview" on page 1-2
- "System Requirements" on page 1-5
- "Installing WALKnet" on page 1-7
- "Connecting WALKnet to a Database" on page 1-13
- "Defining the Environmental Variable for Log Files" on page 1-16
- "SNMP MIBs Supported by WALKnet" on page 1-19

Overview

WALKnet is a management application that provides a graphical representation of the WALKair 1000 (version 3.10 and higher) and/or WALKair 3000 systems, and enables their configuration and maintenance.

WALKnet is a user-friendly application that runs on Microsoft™ Windows NT/2000/XP and UNIX platforms.

The WALKnet application uses the same concepts and terms as defined in the *WALKair 1000 System Description* and *WALKair 3000 System Description*. This manual assumes prior familiarity with these documents.

WALKair 1000 System

Management of the **WALKair 1000** system's Network Elements (Base Station Basic Units and Terminal Station Basic Units) is as follows:

- WALKnet is connected to the Ethernet port of a Base Station Basic Unit (BS-BU) and communicates with the BS-BU using the SNMP protocol over UDP/IP. The SNMP agent resides in each BS-BU, and provides management capabilities for the BS-BU and all connected Terminal Station Basic Units (TS-BUs).
  The BS-BU is the SNMP proxy for all the TS-BUs.

- A BS-BU communicates with the TS-BUs via an Alvarion proprietary protocol over an air link. The TS-BU does not have an SNMP agent. Instead, it has a small management kernel that interfaces the BS-BU SNMP agent using the air-link Embedded Operation Channel (EOC).

WALKnet sends all SNMP queries to the WALKair 1000 BS-BU. The BS-BU encodes the requests and collects the information from the appropriate TS-BU.

WALKair 3000 Shelf-Based System

Management of the **WALKair 3000** system's Network Elements (Shelf, BS-BUs and TS-BUs) is as follows:

- WALKnet is connected to the Ethernet port of a Shelf's Main Processing Unit (MPU) and communicates with it via the SNMP protocol over UDP/IP. The SNMP agent resides in the MPU and provides management capabilities for the Shelf, other cards in the shelf and all connected TS-BUs (The MPU is the proxy for the entire WALKair 3000 system). The WALKnet management station can optionally be connected to the shelf MPU via an ATM card.

- The BS-BU does not have an SNMP agent. Instead, it has a small management kernel that interfaces the MPU SNMP agent via the internal Shelf bus.

- A BS-BU communicates with the TS-Bus via an Alvarion proprietary protocol over an air link. The TS-BU also does not have an SNMP agent. Instead, it has a small management kernel that interfaces the BS-BU management kernel using the air-link Embedded Operation Channel (EOC).

- WALKair 3000 supports In Band Management.

WALKnet sends all SNMP queries to the WALKair 3000 MPU. The MPU encodes the requests and collects the information from the appropriate card in the shelf or TS-BU. In this way, viewing or defining system resources and/or providing fault identification are achieved with the touch of a button.

W3000 Stand-Alone BS-BU System

Management of the WALKair3000 Stand-Alone system's Network Elements (BS-BU and TS-BUs) is as follows:

- WALKnet is connected to the Ethernet port of the main board of the Stand-Alone BS-BU and communicates with it via the SNMP protocol over UDP/IP. The SNMP agent resides on the main board and provides management capabilities for the WalkAir 3000 Stand-Alone system. The BS-BU SA is the proxy for the entire WALKair 3000 Stand-Alone BS-BU system.

- A Stand-Alone BS-BU communicates with the TS-Bus via an Alvarion proprietary protocol over an air link. The TS-BU does not have an SNMP agent. Instead, it has a small management kernel that interfaces the BS-BU management kernel using the air-link Embedded Operation Channel (EOC).

- The WALKair 3000 Stand-Alone BS-BU supports In Band Management through the second Ethernet port.

- WALKnet sends all SNMP queries to the WALKair 3000 Stand-Alone BS-BU. The BS-BU encodes the requests and collects the information from the appropriate TS-BUs (if required). In this way, viewing or defining system resources and/or providing fault identification are achieved with the touch of a button.

System Requirements

The WALKnet workstation and application requirements are as follows:

- **Ethernet Network Card**
- **Windows Platform**
  - ◇ Processor: IBM Compatible PC with Pentium IV CPU, 1.2 GHz
  - ◇ Operating System: Microsoft Windows NT 4.0/2000/XP
  - ◇ Memory: 1 GB RAM
  - ◇ Hard Disk: 6 GB
  - ◇ 19 inch monitor
  - ◇ Screen Resolution: 1024 x 768 pixels
  - ◇ Font Size: small fonts
  - ◇ Color Palette: 16777216 colors
  - ◇ Microsoft Internet Explorer Version 5.5 or higher -Or- Netscape Version 4.5 or higher for On-Line Help
  - ◇ CD Drive

■ **UNIX Platform**

- ◇ Processor: Sun Fire V210 Server
- ◇ Operating System: Sun Solaris, Version 2.8 and 2.9
- ◇ Memory: 1 GB RAM
- ◇ Hard Disk: 9 GB
- ◇ Netscape Version 7.0 for On-Line Help
- ◇ U.W.SCSI-2
- ◇ CD Drive.

Note

Database requirements: See “Connecting WALKnet to a Database” on page 1-13.

Installing WALKnet

WALKnet is installed on either Windows NT/2000/XP or UNIX. WALKnet can also be installed either over HP OpenView (Network Node Manager Version 6.4) or as a standalone application.

Note

When WALKnet is installed as a standalone application, SNMP Trap functionality is available from the WALKnet Alarm Browser. See "The WALKnet Alarm Browser" on page 12-1.

The following procedure describes how to install WALKnet on Windows NT/2000/XP and UNIX platforms. It does not describe the installation of HP OpenView (HPOV). For instructions on the installation of HP OpenView, please see the instructions supplied by Hewlett Packard. After installation of HP OpenView, test the HP OpenView Discover Your Network and perform a map layout.

Installing WALKnet on Windows

The installation procedure is a standard Windows installation with easy-to-follow, on-screen instructions.

To install WALKnet:

1. Install HP OpenView, if required.
2. Insert the WALKnet CD into your computer's CD-ROM drive.
3. Navigate to the WALKnet directory. Double-click the **WALKnet.exe** file to invoke the WALKnet installation wizard.
4. Follow the on screen instructions. During the installation procedure, you must select Standalone, HPOV or both. The HPOV option is only available if HP OpenView is installed on your computer.

5 If WALKnet is installed over HP Open View, the traps must be customized as follows: Open a DOS console window and navigate to the **<OpenView home directory>\bin**, and perform the **ovw - fields** commands.

Notes

The installation of WALKnet over HPOV customizes the HPOV. Refer to Chapter 11, "HPOV Customization", for more details.

If a previous version of WALKnet is installed on your computer, remove it and restart your computer before installing this version of WALKnet.

Installing WALKnet on UNIX

The installation CD includes the following files:

- **Readme.txt**, which includes installation instructions
- **wlkntfl.zip**, which contains WALKnet software

To install WALKnet:

1 Log on to Your UNIX Machine with root privileges, and copy the following WALKnet files to a temporary directory (e.g. /home/tmp):

- ◇ wlkntfl.zip
- ◇ readme.txt

2 Navigate to the temporary directory and unzip the **wlkntfl.zip** file.

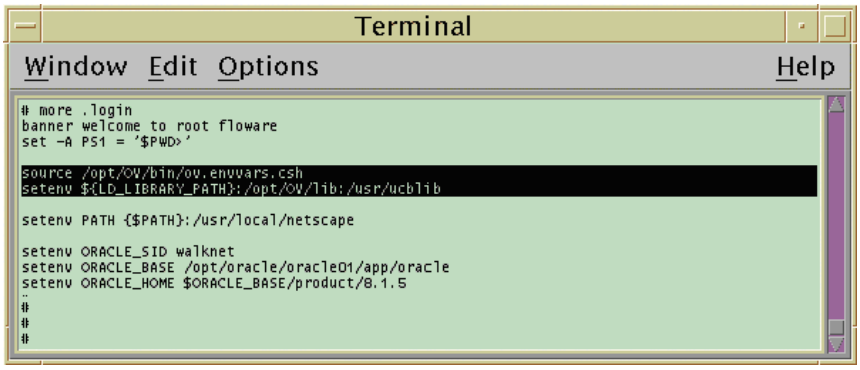
3 On the Unix terminal, verify you current User and Environment.

4 * For HP Open View Integration only (otherwise proceed to the next step), modify your environment variable **LD_LIBRARY_PATH** according to the following format:

- ◇ **>source <Hpov_root>/OV/bin/ov.envvars.csh**, where <Hpov root> is the directory where HP Open View is installed
- ◇ **>setenv LD_LIBRARY_PATH $OV_LIB**

Following is an example screen.

Figure 1-1: LD_LIBRARY_PATH Environment Variable

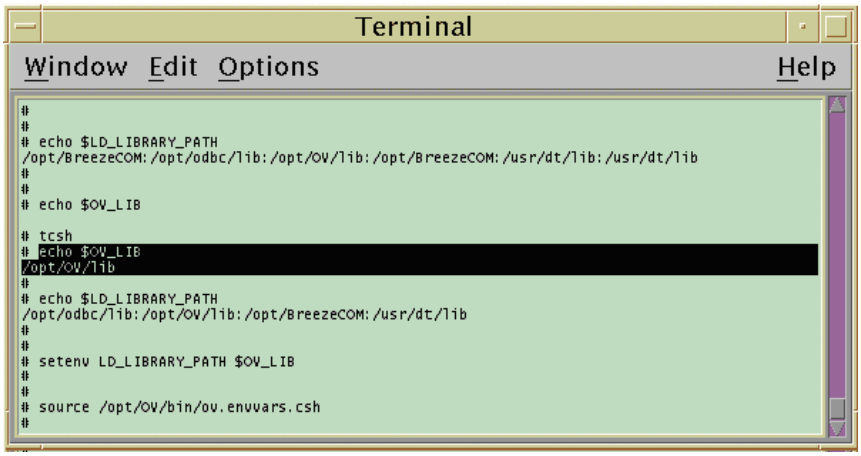


Note

It is recommended to put those variables in the **.cshrc** file (for C shell users) or **.login /.profile** for other shell users.

5 Check that the variables have been modified. An example screen is shown below.

Figure 1-2: Variable Update Check



6 In the temporary directory where the WALKnet installation files are stored, run the installation script by typing **./unix_install**.
At the prompt, enter the full path for installation: for example, **/opt/Walknet7_5**.

7 When the **GeNMS Wizard** opens, click on the **Next** button. Choose the *Network Platform* by clicking the relevant check box: **Stand Alone** or **HPOV**. You can also choose both platforms by checking both check boxes (**Stand Alone** and **HPOV**). Click on the **Next** button to proceed.

8 When the window appears displaying a summary of your settings, check that the information is correct. Click on the **Create** button to proceed with the installation. Approve any messages that appear during the installation process.

9 Approve the **Notice** message (by clicking **OK**).

10 Approve the **Wizard Finished Successfully** message.

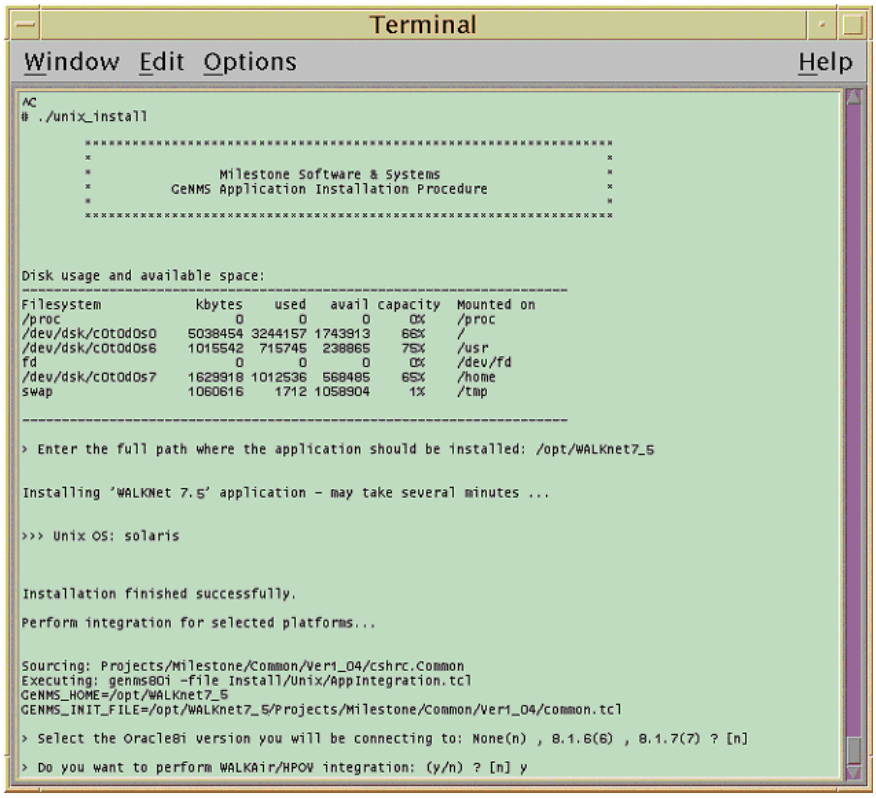
11 When the "**Select the Oracle8i version.....**" line appears on the terminal, if you are using Oracle, select the correct version.

OR—

If you are not using Oracle, select "**6**" (default).

12 When the "**Do you want to perform WALKair/HPOV integration**" message appears, type **y** or **n**, as required.

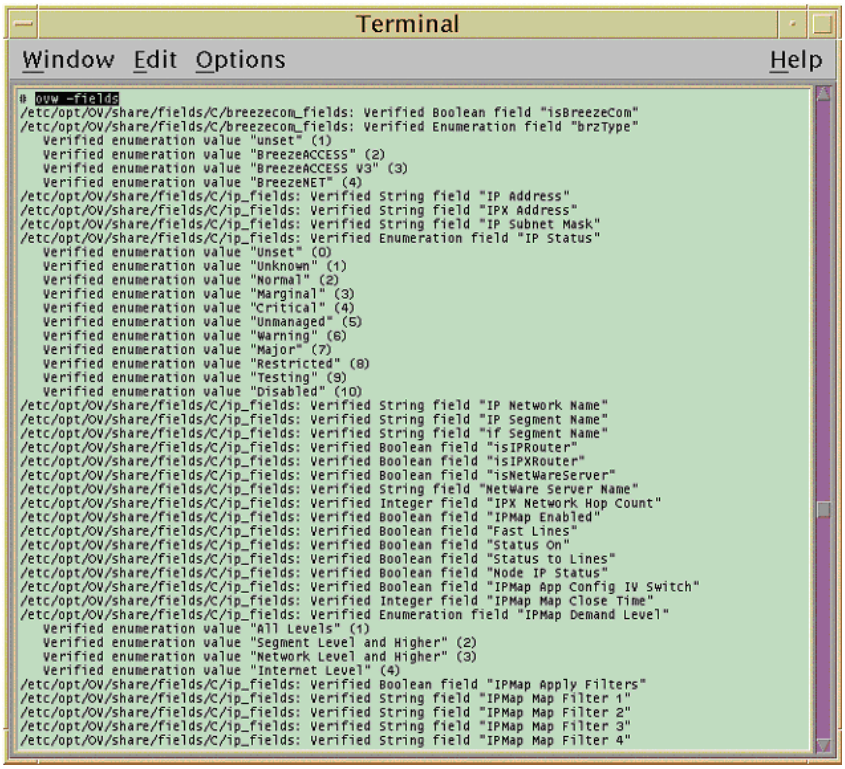
Figure 1-3: WALKnet/HPOV Integration


Terminal
Window Edit Options Help
^C
./unix_install
Milestone Software & Systems
GeNMS Application Installation Procedure
Disk usage and available space:
Filesystem kbytes used avail capacity Mounted on
/proc 0 0 0 0% /proc
/dev/dsk/c0t0d0s0 5038454 3244157 1743913 66% /
/dev/dsk/c0t0d0s6 1015542 715745 238865 75% /usr
fd 0 0 0 0% /dev/fd
/dev/dsk/c0t0d0s7 1629918 1012536 568485 65% /home
swap 1060616 1712 1058904 1% /tmp
> Enter the full path where the application should be installed: /opt/WALKnet7_5
Installing 'WALKNet 7.5' application - may take several minutes ...
>>> Unix OS: solaris
Installation finished successfully.
Perform integration for selected platforms...
Sourcing: Projects/Milestone/Common/Ver1_04/cshrc.Common
Executing: genms80i -file Install/Unix/AppIntegration.tcl
GeNMS_HOME=/opt/WALKnet7_5
GENMS_INIT_FILE=/opt/WALKnet7_5/Projects/Milestone/Common/Ver1_04/common.tcl
> Select the Oracle8i version you will be connecting to: None(n) , 8.1.6(6) , 8.1.7(7) ? [n]
> Do you want to perform WALKAir/HPOV integration: (y/n) ? [n] y

13 Follow the process until the *******Installation Complete**** message appears.

14 *For HP Open View integration only (otherwise proceed to the following step), run the **>ovw -fields** command, as shown below.

Figure 1-4: ovw -fields command for HP Open View


Terminal
Window Edit Options Help
ovw -fields
/etc/opt/OV/share/fields/C/breezecom_fields: Verified Boolean field "isBreezeCom"
/etc/opt/OV/share/fields/C/breezecom_fields: Verified Enumeration field "brzType"
Verified enumeration value "unset" (1)
Verified enumeration value "BreezeACCESS" (2)
Verified enumeration value "BreezeACCESS V3" (3)
Verified enumeration value "BreezeNET" (4)
/etc/opt/OV/share/fields/C/ip_fields: Verified String field "IP Address"
/etc/opt/OV/share/fields/C/ip_fields: Verified String field "IPX Address"
/etc/opt/OV/share/fields/C/ip_fields: Verified String field "IP Subnet Mask"
/etc/opt/OV/share/fields/C/ip_fields: Verified Enumeration field "IP Status"
Verified enumeration value "Unset" (0)
Verified enumeration value "Unknown" (1)
Verified enumeration value "Normal" (2)
Verified enumeration value "Marginal" (3)
Verified enumeration value "Critical" (4)
Verified enumeration value "Unmanaged" (5)
Verified enumeration value "Warning" (6)
Verified enumeration value "Major" (7)
Verified enumeration value "Restricted" (8)
Verified enumeration value "Testing" (9)
Verified enumeration value "Disabled" (10)
/etc/opt/OV/share/fields/C/ip_fields: Verified String field "IP Network Name"
/etc/opt/OV/share/fields/C/ip_fields: Verified String field "IP Segment Name"
/etc/opt/OV/share/fields/C/ip_fields: Verified String field "if Segment Name"
/etc/opt/OV/share/fields/C/ip_fields: Verified Boolean field "isIPRouter"
/etc/opt/OV/share/fields/C/ip_fields: Verified Boolean field "isIPXRouter"
/etc/opt/OV/share/fields/C/ip_fields: Verified Boolean field "isNetWareServer"
/etc/opt/OV/share/fields/C/ip_fields: Verified String field "NetWare Server Name"
/etc/opt/OV/share/fields/C/ip_fields: Verified Integer field "IPX Network Hop Count"
/etc/opt/OV/share/fields/C/ip_fields: Verified Boolean field "IPMap Enabled"
/etc/opt/OV/share/fields/C/ip_fields: Verified Boolean field "Fast Lines"
/etc/opt/OV/share/fields/C/ip_fields: Verified Boolean field "Status On"
/etc/opt/OV/share/fields/C/ip_fields: Verified Boolean field "Status to Lines"
/etc/opt/OV/share/fields/C/ip_fields: Verified Boolean field "Node IP Status"
/etc/opt/OV/share/fields/C/ip_fields: Verified Boolean field "IPMap App Config IV Switch"
/etc/opt/OV/share/fields/C/ip_fields: Verified Integer field "IPMap Map Close Time"
/etc/opt/OV/share/fields/C/ip_fields: Verified Enumeration field "IPMap Demand Level"
Verified enumeration value "All Levels" (1)
Verified enumeration value "Segment Level and Higher" (2)
Verified enumeration value "Network Level and Higher" (3)
Verified enumeration value "Internet Level" (4)
/etc/opt/OV/share/fields/C/ip_fields: Verified Boolean field "IPMap Apply Filters"
/etc/opt/OV/share/fields/C/ip_fields: Verified String field "IPMap Map Filter 1"
/etc/opt/OV/share/fields/C/ip_fields: Verified String field "IPMap Map Filter 2"
/etc/opt/OV/share/fields/C/ip_fields: Verified String field "IPMap Map Filter 3"
/etc/opt/OV/share/fields/C/ip_fields: Verified String field "IPMap Map Filter 4"

Perform trap integration using the following command:
>xnmevents -merge <WALKnet_root>Install/HPOV/traps.dat

15 Enable Read & Write privileges to all Unix Users using the following command:

>chmod 775 <walknet_root>/Projects/FLOWARE/WALKNet/Ver1_0/Product/Data/AsciiDb/WALKNetMaps

Post installation

After WALKnet has been successfully installed, but before it is invoked, you must perform the following tasks:

- To connect the management station to a WALKair 1000 BS BU, or a WALKair 3000 Stand-Alone BS-BU, define the following IP parameters on the BS-BU using the Local Craft Interface (LCI):
  - ◇ IP Address
  - ◇ Network Mask
  - ◇ Default IP Gateway Address
- In order to connect the management station to the WALKair 3000 Shelf, define the following IP parameters on the MPU using the LCI:
  - ◇ IP Address
  - ◇ Network Mask
  - ◇ Default IP Gateway Address

Connecting WALKnet to a Database

This section requires some basic knowledge about relational databases and their installation.

WALKnet uses a relational database to store air link performance data and BS-BU configurations. The latter are stored in the local file system if a database is not defined. The environment variable **NMS_DB_NAME** defines the database to WALKnet.

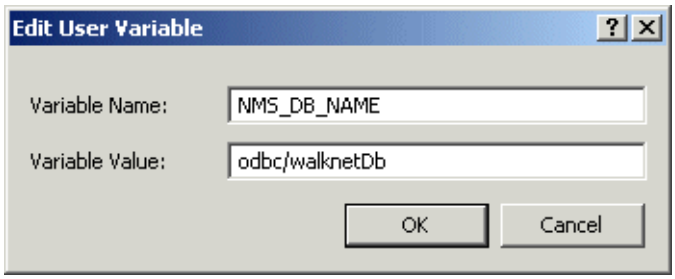
Note

Accessing the Environment Variable - On your PC, Select **Settings**, then **Control Panel**. In the *Control Panel*, double-click on the **System** icon. In the *System Properties* Window, select the **Advanced** tab. Click the **Environmental Variables** button.

-Or-

Right -click on the *My Computer* icon, select **Properties**, **Advanced** Tab, and then click on **Environmental Variables**.

Figure 1-5: Database Environment Variable (example - Microsoft Access)



In order to establish connectivity between WALKnet and the database, database user accounts (Oracle8i only) must be established and WALKnet's environment must be set.

Product Support

WALKnet supports the following databases:

- Oracle version 8.1.6 and higher. The Oracle server can be hosted either on SUN Solaris or Windows NT/2000/XP.
- Microsoft Access on NT/2000/XP.

Connecting to Microsoft Access

To connect to Microsoft Access:

1 Using any name, define an ODBC data source name that uses the Microsoft Access ODBC driver. Create the database in the process.

2 Set the **NMS_DB_NAME** environment variable to:
ODBC/<Your Data Source Name>

Connecting to Oracle8i

You can connect to an Oracle8i database from both WALKnet for Windows NT/2000/XP and WALKnet for UNIX. The Oracle8i server can be hosted either on Windows NT/2000/XP or UNIX.

WALKnet connects to Oracle8i with the user ID and password used to log in to it. A WALKnet user must also be created as an Oracle8i user to be able to connect to Oracle8i. The WALKnet admin user must be created before WALKnet is run for the very first time, and should be granted table creation permissions. Therefore the following procedure must be performed (creating user tables).

To create user tables in the database:

1 Edit the sql file oracle8.sql, and the replace the sample lines to match your system.

2 Execute the following SQLPLUS command:
SQL> start oracle8

To connect to an Oracle8i server from WALKnet for Windows:

1 Install the Oracle8i NT/2000/XP Client software.

2 Set the **NMS_DB_NAME** environment variable to **oracle81/ <net service name>**.

To connect to an Oracle8i server from UNIX:

1 If the Oracle8i server is on a different workstation, install the Oracle8i client.

2 Set the **NMS_DB_NAME** environment variable to **oracle81/<net service name>**.

3 Prepend the path of the Oracle library directory to the **LD_LIBRARY_PATH** environment variable.

Database Size Requirements

The Air Link Performance Data Collection process inserts 96 records per BS-BU/TS-BU air link, per day. The record size for Microsoft Access is 140 bytes. The record size for Oracle8i is 300 bytes.

WALKnet Customization for UNIX

This customization requires some basic knowledge about UNIX administration.

After successfully installing WALKnet, the user login file should be modified so that the path variable includes the directory into which WALKnet was installed. To run WALKnet, enter the command **Run_WALKnet**.

Note

To enable the Help browser, set the **GeNMS_UNIX_EXT_HELP_VIEWER** environment variable to the full path name of the browser.

Defining the Environmental Variable for Log Files

You need to define an environmental variable in order to save *WALKnet* log files. When defining the variable you include a directory path under which WALKnet will create the following directories for the log files:

- **SDL** - includes software download files (see "Displaying the Software Download Log" on page 10-13)
- **BER_Test** - includes BER test results ("Performing BER Tests" on page 10-44)
- **Audit_Log** - includes user login information files (see "Starting WALKnet" on page 2-2)
- **Trap** - includes *WALKnet Alarm Browser* files (if this option is used). (See "Saving an Alarms File" on page 12-14

To define an environmental variable for the WALKnet Log Files:

1 On your PC, Select **Settings**, then **Control Panel**.

2 In the *Control Panel*, double-click on the **System** icon.

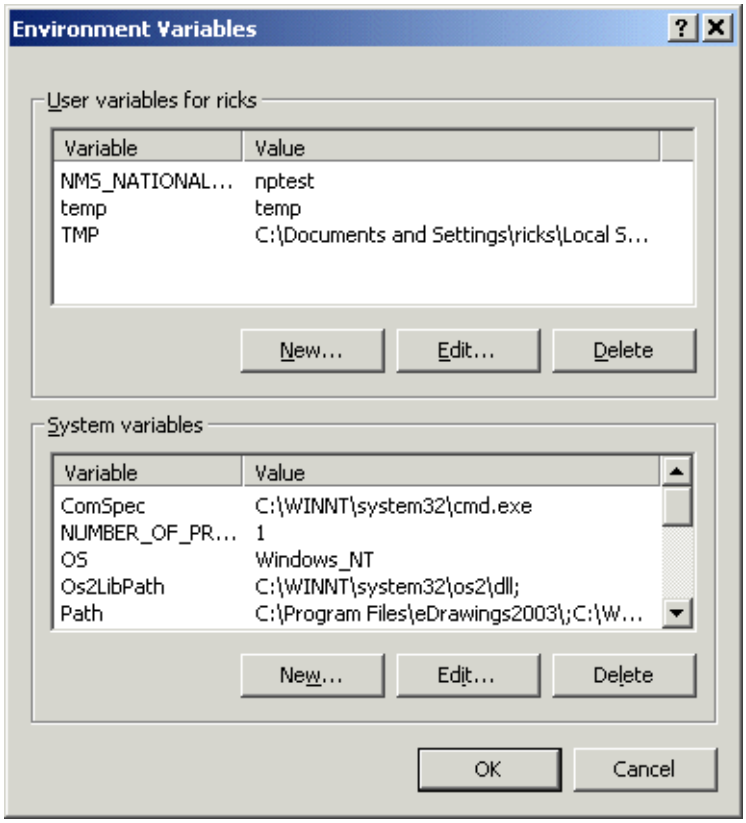
3 In the *System Properties* Window, select the **Advanced** tab. Click the **Environmental Variables** button.

Note

Alternately, right -click on the *My Computer* icon, select **Properties**, **Advanced** Tab, and then click on **Environmental Variables**.

The *Environmental Variables* Dialog Box is displayed.

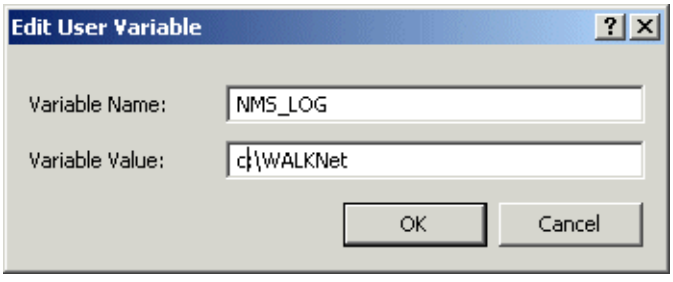
Figure 1-6: Environmental Variables Dialog Box



4 In the User variables area (top area of dialog box), click **New**.

5 In the *New User Variable* dialog box displayed as below, type the following variable name in the *Variable Name* area: **NMS_LOG**.

Figure 1-7: New User Variable Dialog Box

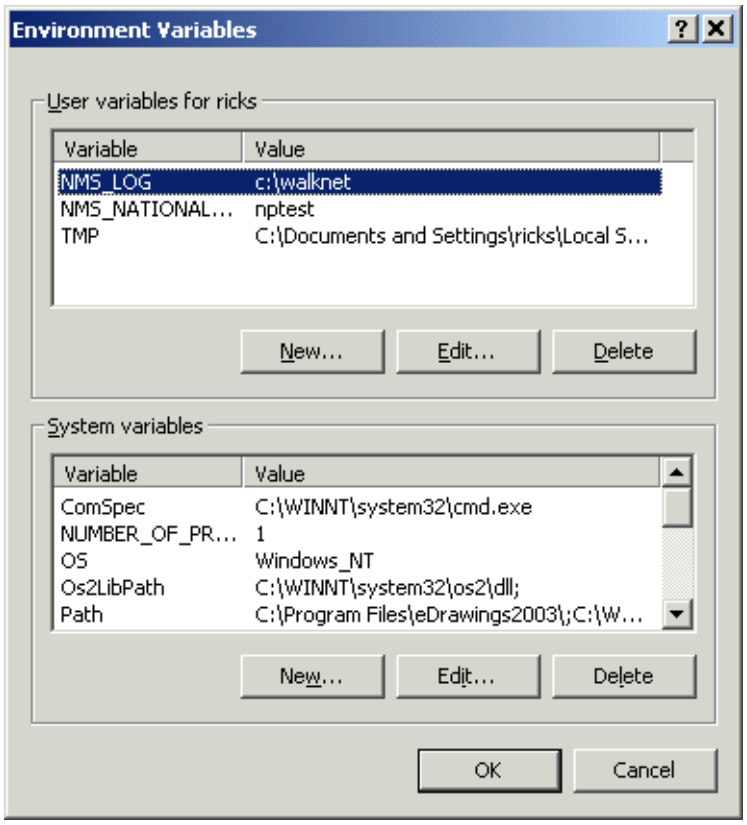


In the *Variable Value* area, type in the name of the directory path that will include the WALKnet Log File directories created by WALKnet: for example, c:\WALKnet.

6 Click **OK**.

The *Environmental Variables* Dialog Box is updated.

Figure 1-8: Environmental Variables Dialog Box (updated)



7 If you are running *Windows NT*, close *WALKnet* and then restart your PC.

-Or-

If you are running *Windows 2000* or *Windows XP*, close *WALKnet* and then restart *WALKnet*.

SNMP MIBs Supported by WALKnet

WALKnet supports the following MIBs:

- Rfc1213.mib
- ianaif.mib
- rfc1604.mib
- walk_ro.mib
- walk_tc.mib
- walkair.mib
- walkv5.mib
- rfc2514.mib
- rfc2515.mib
- walkair3k.mib

MIBs should be compiled in the above order in HPOV.

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2

Chapter 2 - Getting Started

In This Chapter

- "Starting WALKnet" on page 2-2
- "WALKnet Main Window" on page 2-4
- "WALKnet Navigation Model" on page 2-15
- "Error Information" on page 2-22
- "Updating Information" on page 2-23

If you are already familiar with the application, go to Chapter 4, "Cell Configuration," for more detailed instructions about procedures.

Starting WALKnet

The procedure for starting WALKnet varies according to whether it is installed over HP OpenView or as a standalone application.

- When installed over HP OpenView, invoke WALKnet from HP OpenView by selecting **Run_WALKNet** from the HP OpenView Main menu.

- When installed as a standalone application over HP OpenView, invoke WALKnet, as described below.

When installed over HP OpenView as a standalone application, you can invoke WALKnet using either of the above methods.

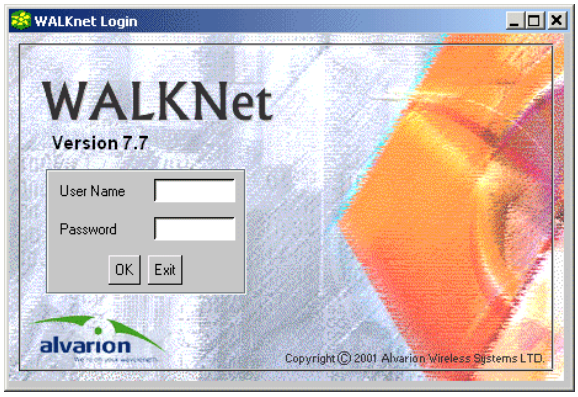
To start WALKnet without HP OpenView on UNIX:

- When WALKnet is installed on UNIX, WALKnet is invoked by activating **Run_WALKNet** from the installation directory.

To start WALKnet without HP OpenView on Windows:

1 From the Windows *Start* menu, select **Programs > WALKnet > WALKnet**. The *WALKnet Login* dialog box is displayed as shown below:

Figure 2-1: WALKnet Login Dialog Box



WALKnet tracks your *Logins* and keeps the results in log files. Log files are named **Access_WALKNet.txt** and placed in the directory defined by the **NMS_LOG** environment variable, sub-directory **Audit_Log**.

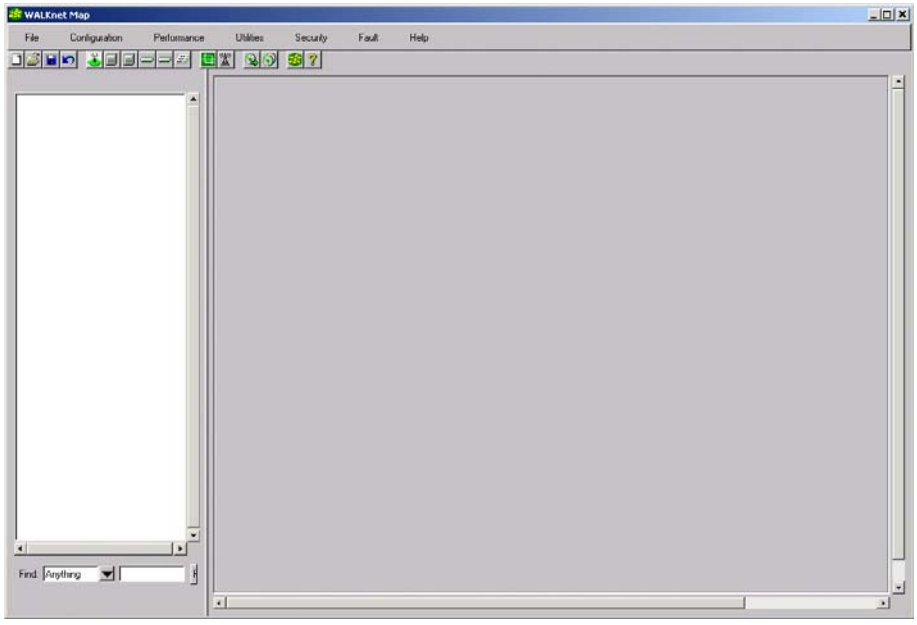
Notes

For information about how to define the **NMS_LOG** Environment Variable, see "Defining the Environmental Variable for Log Files" on page 1-16.

Access to the WALKair system from WALKnet requires authentication. An administrator user configures the user name and password. The default user name is **admin** and the default password is **ad**. Refer to Chapter 9, "Security Management", for details.

2 Enter your User Name and Password, and click **OK**. The WALKnet Main window is displayed.

Figure 2-2: WALKnet Main Window



The WALKnet Main window is described in the following section.

WALKnet Main Window

The WALKnet Main window includes the following areas:

- “Title Bar” on page 2-4, below.
- “Menu Bar” on page 2-4, below.
- “Toolbar” on page 2-10.
- “Status Bar” on page 2-11.
- “Network Navigation Tree” on page 2-12.
- “Workspace” on page 2-13.

Title Bar

The WALKnet Title Bar indicates the name of the open map file in the WALKnet Workspace. When multiple WALKnet maps are open, the name of the active (in-focus) map is displayed in the Title Bar.

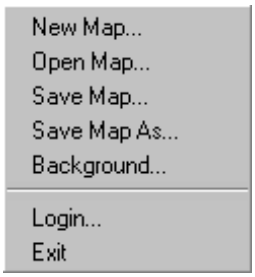
Menu Bar

The WALKnet Menu Bar contains menus that enable you to configure and view system components. It includes the following menus:

- “File Menu” on page 2-5.
- “Configuration Menu” on page 2-6.
- “Performance Menu” on page 2-7.
- “Utilities Menu” on page 2-8.
- “Security Menu” on page 2-8.
- “Fault Menu” on page 2-9

- "Help Menu" on page 2-9.

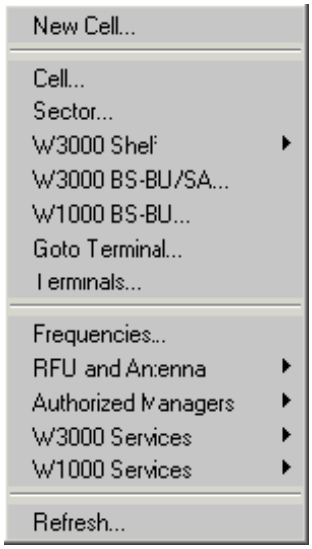
File Menu



The *File* menu includes the following options:

- **New Map**: Enables you to create a new map.
- **Open Map**: Enables you to open an existing map.
- **Save Map**: Saves the current map in a file.
- **Save Map As**: Enables you to save the open map file with a new name.
- **Background**: Enables you to change the image file used as the background for the map.
- **Login**: Enables you to log in as a different user.
- **Exit**: Exits from the WALKnet application, saving any configuration changes.

Configuration Menu

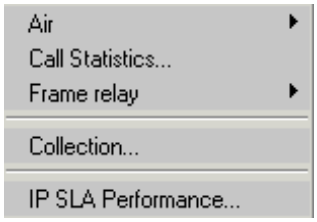


The *Configuration* menu includes the following options:

- **New Cell**: Enables you to create a new cell.
- **Cell**: Enables you to open Cell View for a selected cell.
- **Sector**: Enables you to open Sector View for a selected sector.
- **Shelf:** Enables you to open Shelf View for a selected shelf.
- **W3000 Shelf**: Enables you to open BS-BU, Main Processing Unit (MPU), Network Interface Unit (ATM-NIU) or Hot Swap Controller (HSC) Views for a selected Shelf component.
- **W3000 BS-BU/SA**: Enables you to open WALKair 3000 for a Stand-Alone BS-BU.
- **W1000 BS-BU**: Enables you to open WALKair 1000 for a selected BS-BU.
- **Goto Terminal**: Enables you to open TS-BU View for a selected TS-BU.
- **Terminals**: Enables you to display the Terminal Stations registered to a selected BS-BU.

- **Frequencies**: Enables you to assign frequencies to BS-BUs.
- **RFU and Antenna**: Enables you to configure RFU and antenna parameters for BS-BUs and TS-BUs.
- **Authorized Managers**: Enables you to define Trap destinations and authorized managers.
- **W3000 Services**: Enables you to define services between telecom ports of a WALKair 3000 system.
- **Services**: Enables you to define services between telecom ports of a WALKair 1000 system.
- **Refresh**: Updates the status of devices on the map.

Performance Menu



The *Performance* menu includes the following options:

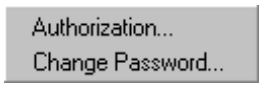
- **Air**: Provides access to a summary of air performance and detailed statistics of air performance.
- **Call Statistics**: Provides access to V5 call statistics.
- **Frame Relay**: Provides access to Frame Relay statistics.
- **Collection**: Provides access to the air performance monitoring collection.
- **IP SLA Performance**: Provides access to IP SLA monitoring.

Utilities Menu

The *Utilities* menu includes the following options:

- **Tests**: Enables you to perform BER tests.
- **Software Download**: Enables you to perform software downloads to devices.
- **Configuration Load**: Enables you to download and upload WALKair 3000 and WALKair 1000 BS-BU configuration parameters.
- **Versions**: Enables you to view resident software versions on devices.
- **SNMP Parameters**: Enables you to specify SNMP parameters.

Security Menu



The *Security* menu includes the following options:

- **Authorization**: Enables you to view a list of users and define new users.
- **Change Password**: Enables you to change the WALKnet access password.

Fault Menu

The *Fault* menu is used to access displayed alarms in the *WALKnet Alarm Browser*, and only appears if HP OpenView is not installed (or installed and not running) in the system.

The *Fault* menu includes the following options:

- *WALKair Alarms Monitor* - The *WALKair Alarms Monitor* Window displays (in real-time) the most recent twenty SNMP traps (alarms) sent by WALKair 1000/WALKair 3000 devices, and received by the WALKnet application.

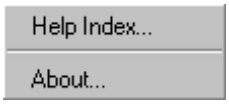
- *WALKair Alarms History* - The *WALKair Alarms History* window can display all the alarms from the devices. Its display is refreshed manually by the operator.

Note

We recommend to use HP OpenView for large installations. For more information about *HP OpenView* integration with *WALKnet*, see "HPOV Customization" on page 11-1 of this user's manual.

For more information about the *WALKnet Alarm Browser*, see "The WALKnet Alarm Browser" on page 12-1 of this user's manual.

Help Menu



The *Help* menu includes the following options:

- **Help Index**: Provides access to online help.

- **About**: Displays version information for the WALKnet application.

Toolbar

The WALKnet Toolbar contains icons for quick access to key menu options that enable you to configure and view system components. It includes the following tools:

New	Enables you to create a new map.
Open	Enables you to open an existing map.
Save	Saves the current map in a file.
Refresh	Enables you to refresh SNMP parameters manually
View Cell	Enables you to open Cell View for a selected cell.
View Shelf	Enables you to open WALKair 3000 Shelf View for a selected shelf.
View Sector	Enables you to open WALKair 1000 or WALKair 3000 Sector View for a selected sector according the sector type.
View BS-BU	Enables you to open WALKair 1000 or WALKair 3000 BS-BU View for a selected BS-BU according the BS-BU type.
View TS-BU	Enables you to open WALKair 1000 or WALKair 3000 TS-BU View for a selected TS-BU according the TS-BU type.
View Terminals	Enables you to open WALKair 1000 or WALKair 3000 Terminal Stations registered to a selected BS-BU according the BS-BU type.
Sector Frequency	Enables you to assign frequencies to WALKair 1000 and/or WALKair 3000 BS-BUs in the selected sector according to the sector type.
RFU and Antenna	Enables you to configure RFU and antenna parameters for WALKair 1000 BS-BUs.
Software Download	Enables you to perform software downloads to devices.

	Versions	Enables you to view resident software versions on devices.
	About	Displays version information for the WALKnet application.
	Help	Provides access to online help.

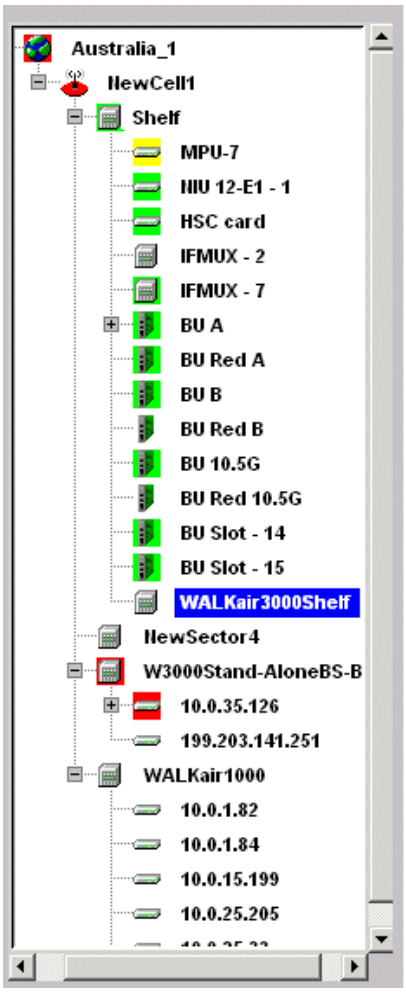
Status Bar

The WALKnet Status Bar indicates the current state of WALKnet while communicating with devices. It also displays the time and date.

Network Navigation Tree

The WALKnet Network Navigation tree provides a hierarchical view of the network, displaying all the objects defined on the open map.

Figure 2-3: WALKnet Network Navigation Tree



The color of the icon to the left of each element in the Network Navigation Tree reflects the status of the element, as follows:

- **Green**: OK, no alarms
- **Yellow**: Minor alarm
- **Red**: Major alarm
- **Gray**: No connection with the device

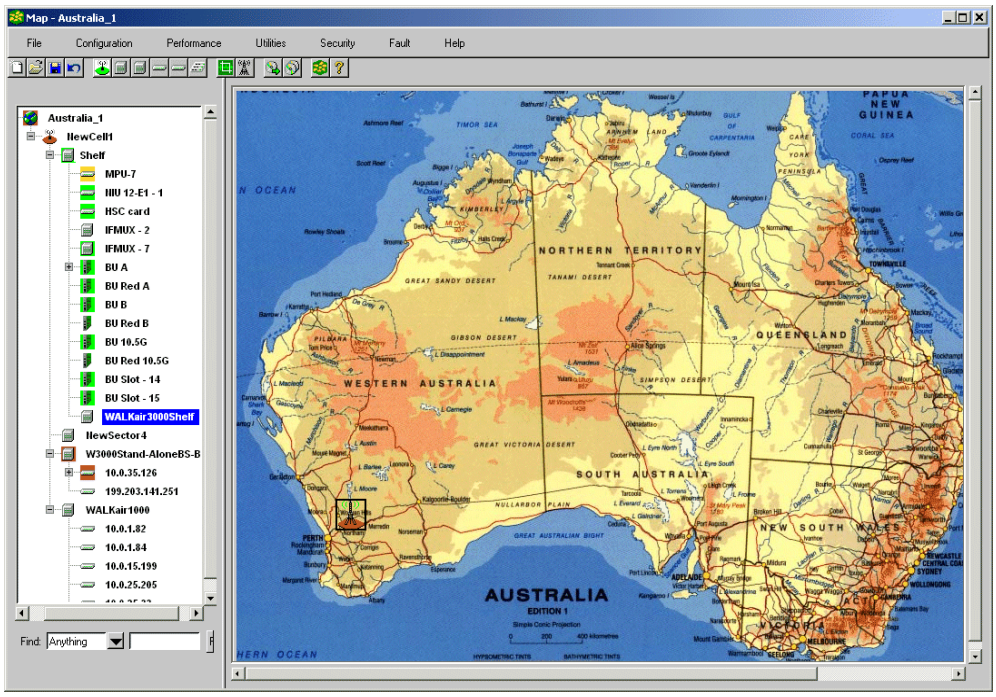
Double-clicking an element in the Network Navigation tree displays the View window for that element. For example, double-clicking a BS-BU displays Base Station BU View for the BS-BU.

Use the **Find** field to locate an object by its name. You can either search all objects in the Network Navigation tree or you can search objects of a specific type.

Workspace

The WALKnet Workspace is the main working area of the WALKnet application. It displays maps that specify cell locations.

Figure 2-4: WALKnet Workspace



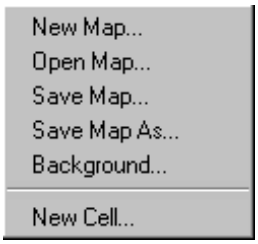
The cell icon, positioned on a.GIF background image of an area, indicates the geographical location of a WALKair cell. The color of the cell icon alerts the user to the general status of the devices within the cell. The color of the base of the cell icon reflects the status of the indoor equipment and the color of the antenna waves reflects the status of the air link.

The cell color indications are as follows:

- **Green**: OK, no alarms
- **Yellow**: Minor alarm
- **Red**: Major alarm
- **Gray**: All elements are disconnected
- **White**: No defined elements in the cell

Right-click Menu

Right-clicking inside the Workspace displays the following menu:

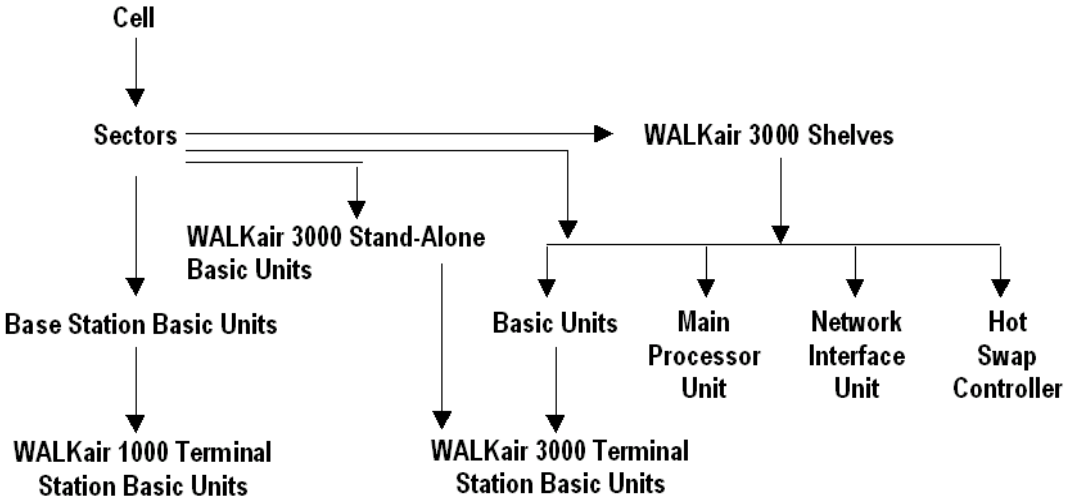


The options are as follows:

- **New Map**: Enables you to create a new map.
- **Open Map**: Enables you to open an existing map.
- **Save Map**: Saves the current map in a file.
- **Save Map As**: Enables you to save the open map file with a new name.
- **Background**: Enables you to change the image file used as the background for the map.
- **New Cell**: Enables you to create a new cell.

WALKnet Navigation Model

The WALKnet application uses a combination of look-down and look-through methods, which provides both overall and specific views of the WALKair system. To display and manage the WALKair network, a hierarchical navigation model is used whereby you drill down from the cell icons through the hierarchy of devices, as follows:



At each level, the parameters and configuration information are displayed in a View of that level, as follows:

Figure 2-5: WALKnet Navigation Model for WALKair 1000 System

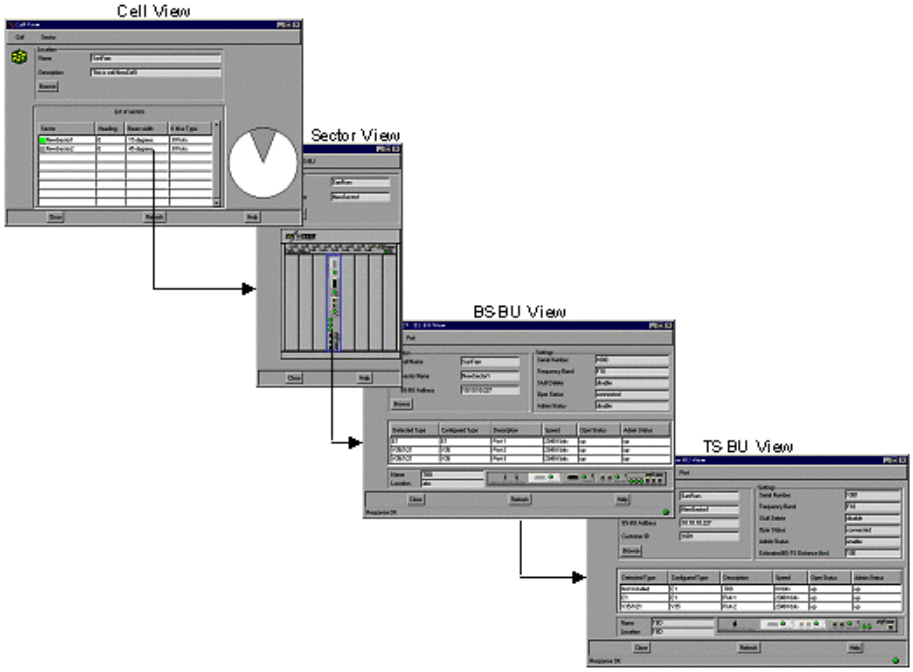


Figure 2-6: WALKnet Navigation Model for WALKair 3000 Shelf-based System

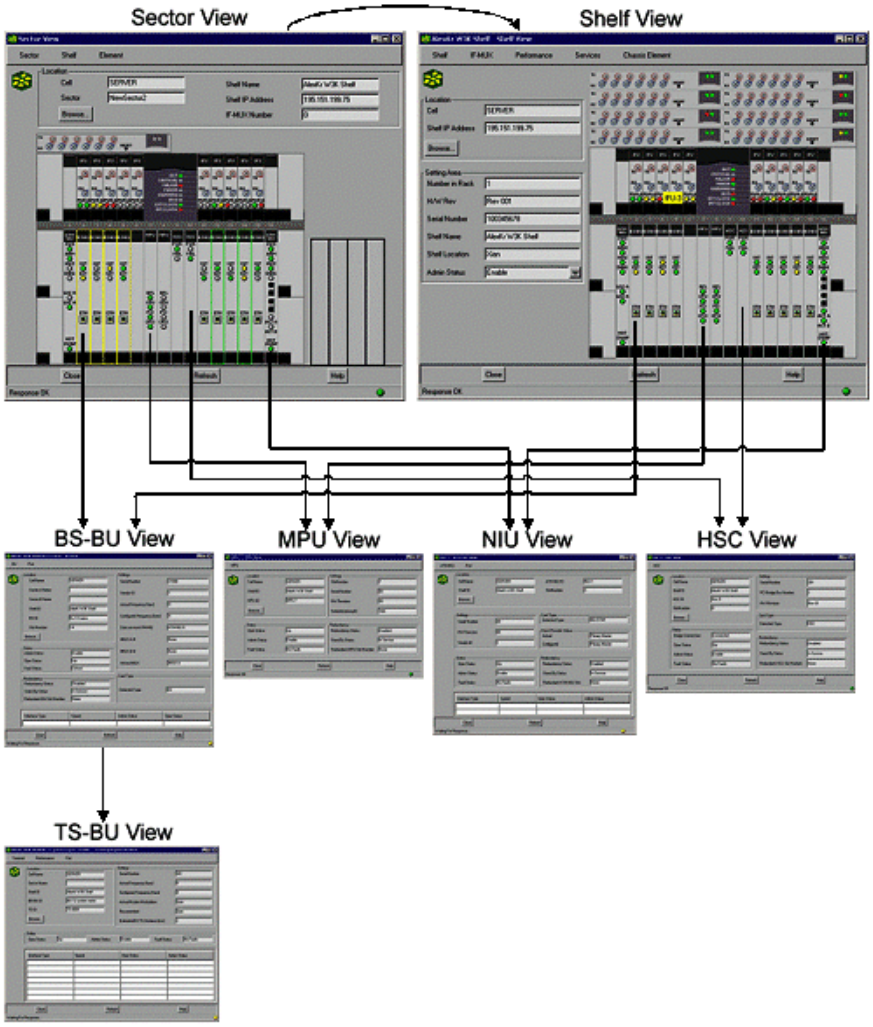
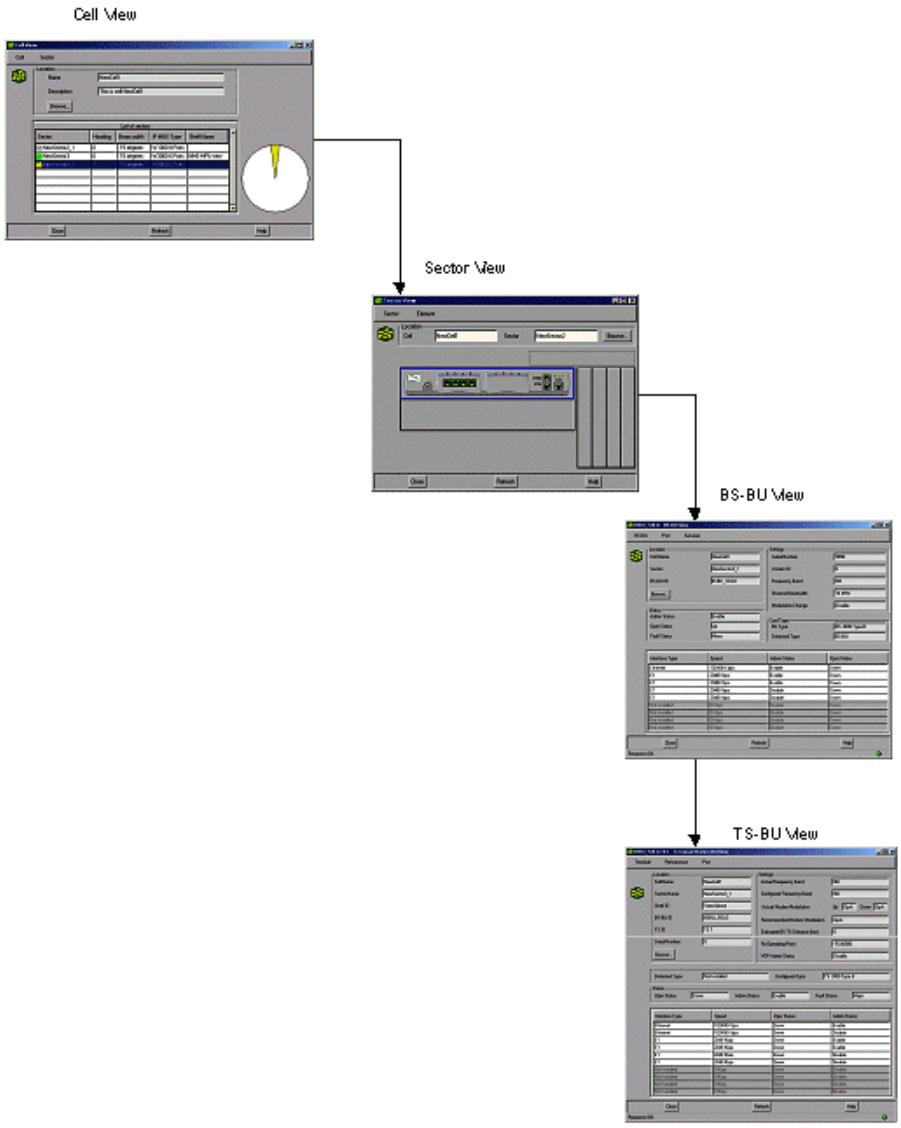


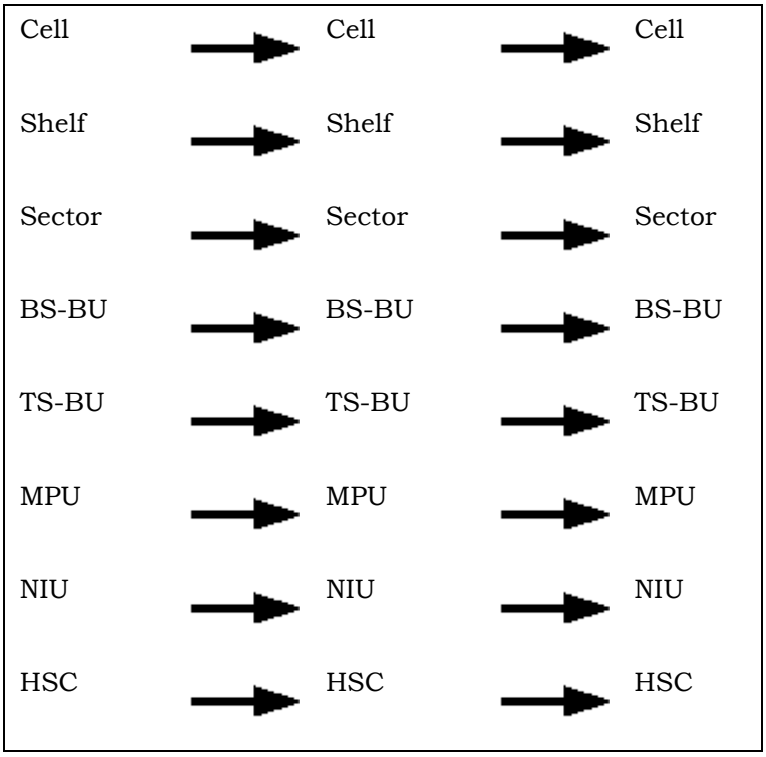
Figure 2-7: WALKnet Navigation Model for WALKair 3000 Stand-Alone System



At each level or View, you can view and edit the properties of the device, as well as access the child or sub-elements of the device.

Horizontal Navigation

Additionally, the WALKnet navigation model enables you to navigate horizontally in all hierarchical levels.



This means you can move between Views, as follows:

- When you are in Cell View for a selected cell, you can display the Cell View information for another cell in the same map without closing Cell View.
- When you are in Shelf View for a selected shelf, you can display the Shelf View information for another shelf in any cell within the map.
- When you are in Sector View for a selected sector, you can display the Sector View information for another sector in any cell within the map.
- When you are in BS-BU or TS-BU View for a selected BS-BU or TS, you can display the BS-BU or TS-BU View information for another BS-BU or TS in any sector in any cell within the map.

- When you are in MPU, NIU or HSC View for a selected MPU, NIU or HSC, you can display the MPU, NIU or HSC View information for another MPU, NIU or HSC in any shelf in any cell within the map.

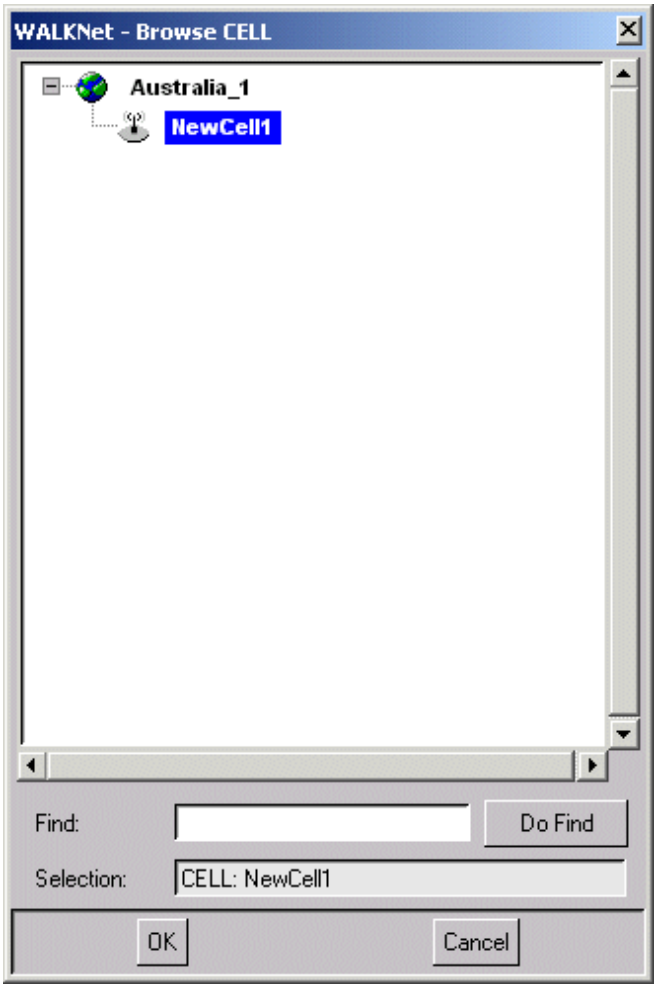
Horizontal navigation enables rapid movement between cells, Shelves, sectors, MPUs, NIUs, HSCs, BS-BUs and TS-BUs without having to close the respective View.

You navigate horizontally using the **Browse** button available in all Views. The following procedure shows, as an example, how to navigate horizontally between cells. The method is the same when you are navigating horizontally between shelves, sectors, MPUs, NIUs, HSCs, BS-BUs or TS-BUs.

To navigate horizontally:

1 Click the **Browse** button in Cell View. The *Browse Cell* dialog box is displayed as shown below:

Figure 2-8: Browse Cell Dialog Box



2 Expand the tree, and select another cell.

Note

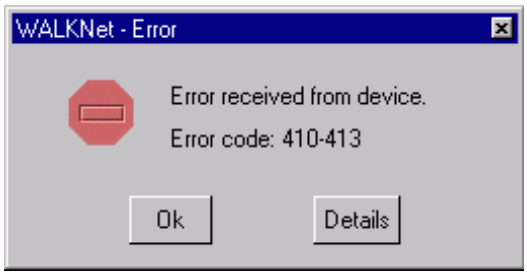
To find a cell in the tree, specify its name in the **Find** field and click **Do Find**. If the specified cell is found, it is selected in the tree.

3 Click **OK**. The *Browse Cell* dialog box is closed, and the open Cell View now displays the configuration of the newly selected cell.

Error Information

WALKnet issues specific error messages when the system receives errors from a device. The message contains error codes, as shown in the example below.

Figure 2-9: Error Message



Click **Details** to display a description of the error message. Refer to Appendix C, "WALKair 1000 Error Messages" for more details.

Updating Information

Whenever you open a WALKnet window or dialog box, WALKnet automatically retrieves the latest data from the devices defined in the WALKair system and updates the displayed information. You can manually update the information in WALKnet windows or dialog boxes at any time.

To manually update information:

- In the Main window, select **Refresh** from the *Configuration* menu, or press **<F3>**. The WALKnet application transparently polls Shelves, BS-BUs and TS-BUs defined in the system and updates the information displayed in the open map.

Note

Click the **Refresh** button in an individual dialog box to update the information displayed in that dialog box..

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3

Chapter 3 - Map Management

In This Chapter

- "Introduction" on page 3-2
- "Creating a New Map" on page 3-3
- "Opening an Existing Map" on page 3-5
- "Saving Maps" on page 3-6

Introduction

Maps are displayed in the WALKnet Workspace. Maps display WALKair cells within a specific geographical area and include the configuration of the WALKair system. The geographical area is represented in the map by a background image (GIF file). A map may show an entire county, a city or only an area within a city. The use of a background image helps with orientation, but is not required to create a map.

The cell icons, representing the WALKair cells, may be randomly arranged on the gray default background or specifically positioned on the background image showing the actual location within a city/area. Cell icon positions are always displayed in the last saved location in the map.

Maps, including the configuration of the WALKair system, are saved in map files in the WALKnet database.

Creating Map Background Images

A map background can be any image saved in GIF format. Background image files are saved in the WALKnet Maps folder in order to be immediately accessible when creating a new map. See "Creating a New Map" on page 3-3.

To create a map background:

- Scan an image and save it as a GIF file in the Maps folder, located in the WALKnet folder**:**
  (<root>:\...\WALKnet\Maps*.gif)

Creating a New Map

A map is created to represent a specific geographical area. The cells for that area can then be defined. (Defining and configuring cells is described in Chapter 4, "Cell Configuration.")

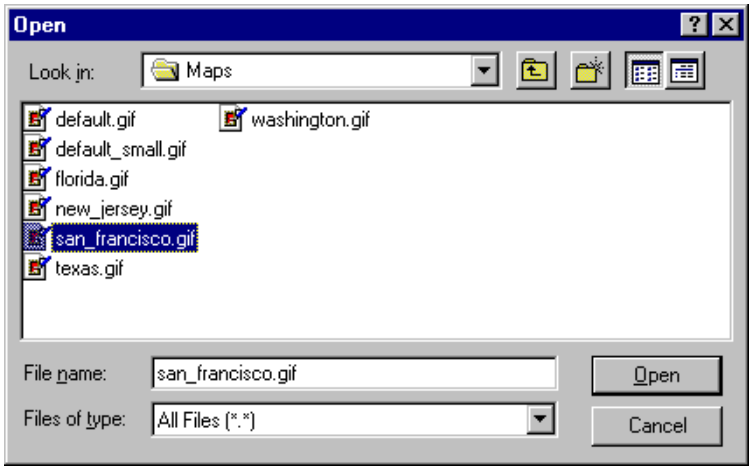
To create a new map:

1 Create a new map in one of the following ways:

- ◇ From the *File* menu, select **New Map**.
- ◇ Click **New** in the toolbar.
- ◇ Right-click in the Workspace, and select **New Map** from the options displayed.

The *Open* dialog box is displayed with the Maps folder open as shown below:

Figure 3-1: Open Dialog Box



2 Select a background image for your map, and click **Open**. The selected image is displayed in the Workspace. You can now save your map (see "Saving Maps" on page 3-6) or define cells in your map (described in Chapter 4, "Cell Configuration").

Note

The size of the background image is fixed. When it is larger than the WALKnet Workspace, scroll bars enable you to view the entire map. To reduce the size of the background image, adjust the background image file (.GIF) itself.

Changing a Map Background

The background image of a map can be changed at any time while the map is open.

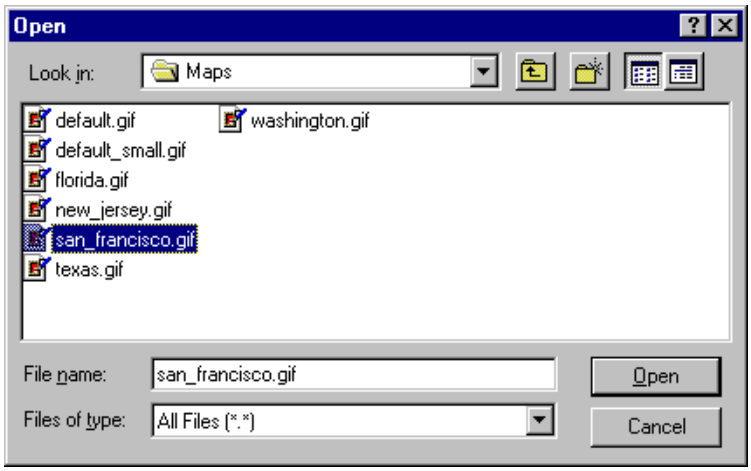
To change the background image:

1 Change the background image in one of the following ways:

- ◇ From the *File* menu, select **Background**.
- ◇ Right-click in the Workspace, and select **Background** from the options displayed.

The *Open* dialog box is displayed as shown below:

Figure 3-2: Open Dialog Box



2 Select a new background image for your map, and click **Open**. The selected image is displayed as the background for the open map.

Opening an Existing Map

WALKnet enables multiple maps to be saved and opened whenever required.

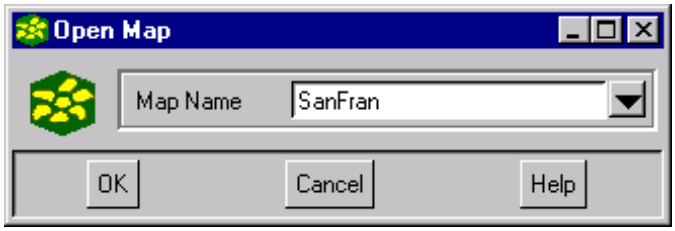
To open an existing map:

1 Open an existing map in one of the following ways:

- ◇ From the *File* menu, select **Open Map**.
- ◇ Click **Open** in the toolbar.
- ◇ Right-click in the Workspace, and select **Open Map** from the options displayed.

The *Open Map* dialog box is displayed as shown below:

Figure 3-3: Open Map Dialog Box



2 Click the arrow to the right of the **Map Name** field, and select a map from the dropdown list of existing maps.

3 Click **OK**. The selected map is displayed in the WALKnet Workspace. You can now modify the configuration of this map or save it with a different name. See "Saving a Map with a New Name" on page 3-7.

Saving Maps

To prevent the map and its cell configuration from being lost, WALKnet enables you to save already defined maps with a different name. New maps should be saved before closing the WALKnet application. This can save time by enabling you to create a new map with the configuration of an existing map. In this way, you can modify the configuration rather than defining the map from the beginning.

Saving a New Map

New maps should be saved before closing the WALKnet application. WALKnet automatically prompts you to save any unsaved maps when exiting the application.

To save a new map:

1 Save a new map in one of the following ways:

- ◇ From the *File* menu, select **Save Map**.
- ◇ Click **Save** in the toolbar.
- ◇ Right-click in the Workspace, and select **Save Map** from the options displayed.

The *Save Map* dialog box is displayed as shown below:

Figure 3-4: Save Map Dialog Box

2 Enter a name for the map (with no blank spaces) in the **Map Name** field, and click **OK**. The map is saved in a map file, and the new name appears in the Title Bar.

Saving a Map with a New Name

Any existing map, including its cell configuration, can be duplicated and saved with a different name.

To save a map with a different name:

1 Open an existing map.

2 Save the map in one of the following ways:

- ◇ From the *File* menu, select **Save Map As**.
- ◇ Right-click in the Workspace, and select **Save Map As** from the options displayed.

The *Save Map* dialog box is displayed as shown below:

Figure 3-5: Save Map Dialog Box

3 Enter a different name for the map (with no blank spaces) in the **Map Name** field, and click **OK**. The map is saved in a map file with the new name, and the new name appears in the Title Bar.

4

Chapter 4 - Cell Configuration

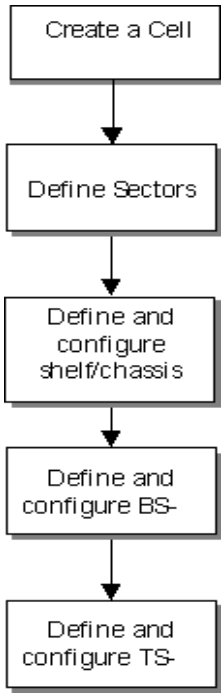
In This Chapter

- "Workflow" on page 4-2
- "Cell Management" on page 4-3
- "Sector and Shelf Management" on page 4-8
- "Base Station Basic Unit Management" on page 4-30
- "Terminal Station Basic Unit Management" on page 4-58
- "Frequency Planning" on page 4-77
- "Configuring the RFU and Antenna" on page 4-82

Workflow

To monitor and manage the WALKair system, you must first define and create a representational view of the WALKair system. After creating a map to represent the geographical area of the WALKair system (described in Chapter 3, “Map Management”), you create and configure the cells within the system.

The typical workflow for WALKair 3000 and WALKair 1000 is as follows:



The following sections describe each step of the workflow.

Cell Management

The first step in configuring a cell is to create a cell and locate it within a map. Cells can be added, removed and renamed in a map, but they cannot be transferred between maps.

Creating a New Cell

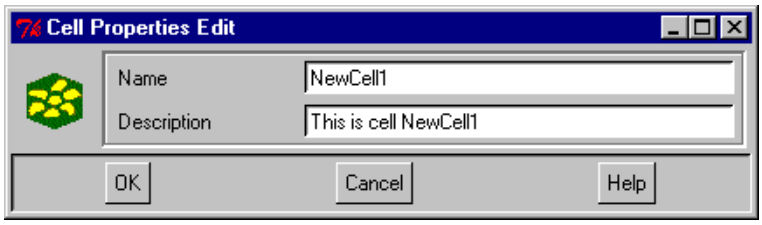
The first step in configuring a cell is to create a cell. To create a cell, a map must be open in the WALKnet workspace.

To create a new cell:

1 Open a map.

2 From the *Configuration* menu, select **New Cell**, or right-click in the Workspace and select **New Cell** from the options displayed. The *Cell Properties Edit* dialog box is displayed:

Figure 4-1: Cell Properties Edit Dialog Box



3 In the appropriate fields, enter a **Name** (with no blank spaces) and **Description** for the cell, and click **OK**. A cell icon representing the new cell is displayed in the top-left corner of the workspace.

4 Click the cell icon, and keeping the mouse button pressed, drag it to the required location on the map as in the example below.

Figure 4-2: Locating Cell on Map

You have now defined a cell with no configuration properties. The next step is to configure the cell by defining sectors within it. See "Sector and Shelf Management" on page 4-8 for details.

Displaying Cell View

Cell View displays configuration information for a cell and enables you to configure a cell by defining sectors within it.

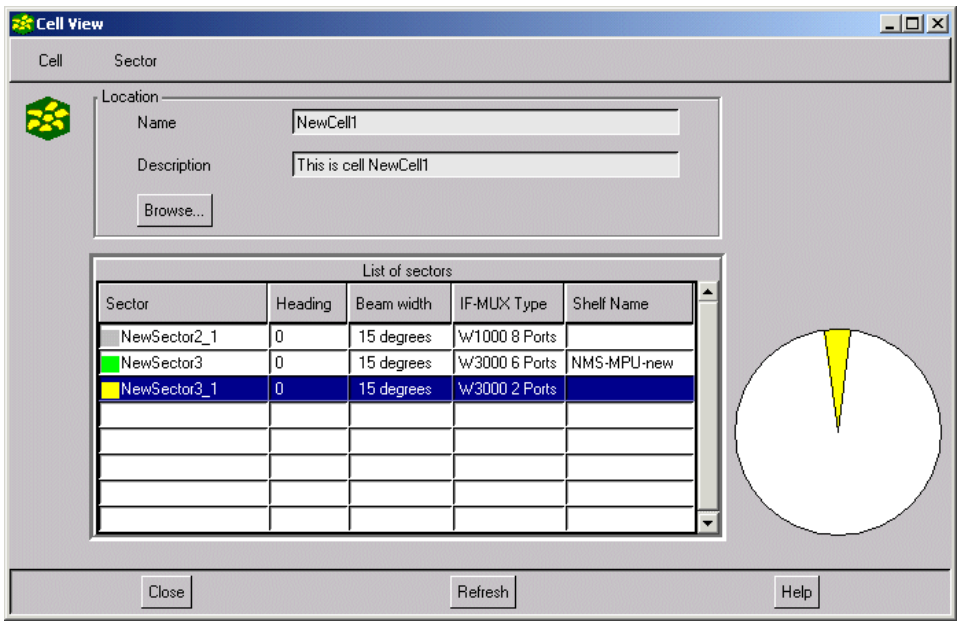
To access Cell View:

Cell View is accessed from the *Main* window in one of the following ways:

- In the Network Navigation Tree, by double-clicking a cell node.
- In the workspace, by double-clicking a cell.
- By right-clicking a cell, and selecting **Open** from the options displayed.
- From the *Configuration* menu, by selecting **Cell** or clicking **View Cell** in the toolbar. Then browsing to the required cell in the *Browse Cell* dialog box, and clicking **OK**.

The Cell View dialog box for the selected cell is displayed:

Figure 4-3: Cell View Dialog Box



Cell View displays the configuration parameters of the selected cell. The parameters are read-only. To modify the configuration parameters, see "Modifying Cell Properties" on page 4-7.

The following Cell View parameters are displayed:

Location area	
Name	The name of the cell.
Description	A description of the cell, useful in identifying the location of the cell.
Browse	Enables you to display configuration information in the open Cell View for another cell in the same map.
List of sectors area	
Sector	The name of the sector. The color of the box to the left of the name indicates the status of devices in the sector.
Heading	The direction in which the antenna is facing: **0** to **360** degrees.
Beam width	The angle of the sector: **15, 30, 45, 60, 90** or **120, 180** and **360** degrees.
IF-MUX Type	W1000 8 Ports, W1000 16 Ports, W3000 6 Ports (Shelf), W3000 2 Ports (up to 2 Stand-Alone BS-BUs per sector) or W3000 None (one Stand-Alone BS-BU without IF MUX).

Shelf Name **Shelf only**—The system name of the W3000 shelf within which the IF-MUX is defined.

Note

The pie chart to the right of the **List of sectors** area provides a graphical representation of the sectors defined in the cell. The color of the sector in the pie chart indicates the status of devices in the sector.

From Cell View, you can do the following:

- Display configuration information for another cell in the same map (see "Horizontal Navigation" on page 2-19)
- Edit cell properties (see "Modifying Cell Properties" on page 4-7)
- Assign frequencies to BS-BUs (see "Frequency Planning" on page 4-77)
- Define new sectors (see "Sector Management" on page 4-8)
- Modify and delete existing sectors (see "Deleting and Editing Sectors" on page 4-14)
- Access Sector View (see "Displaying Sector View" on page 4-10)

The next step in configuring a cell is to define the sectors within the cell. See "Sector and Shelf Management" on page 4-8 for details.

Editing and Deleting Cells

Cells can be deleted from a map or their properties can be modified.

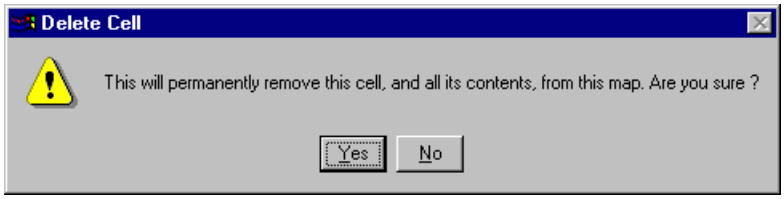
Deleting Cells

Deleting cells from a map also deletes the entire configuration of the cell.

To delete a cell:

1 In the map, right-click a cell, and select **Delete** from the options displayed. The Delete Cell confirmation message is displayed:

Figure 4-4: Delete Cell Confirmation Message



2 Click **Yes** to delete the cell from the map.

Modifying Cell Properties

Modifying the properties of a cell enables you to modify the name and description of the cell.

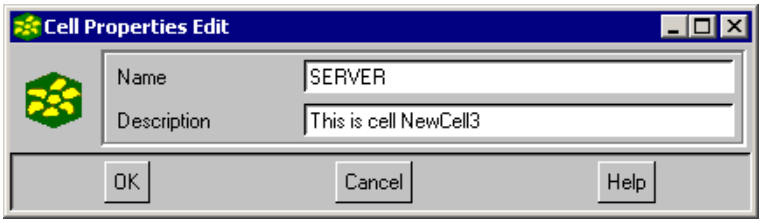
To modify cell properties:

1 Modify the properties of a cell in one of the following ways:

- ◇ In the map, by right-clicking a cell, and selecting **Properties** from the options displayed.
- ◇ In Cell View, by selecting **Edit Cell** from the *Cell* menu.

The *Cell Properties Edit* dialog box is displayed:

Figure 4-5: Cell Properties Edit Dialog Box



2 Modify the **Name** and **Description** of the cell, as required, and click **OK**.

Sector and Shelf Management

The following section describes how to create and manage a sector. Shelf management is described on page 4-19.

Sector Management

The next step in configuring a cell is to define the sectors within the cell. A cell can include up to 16 sectors.

Creating a Sector

A sector is a division of a cell that contains Base Stations and Terminal Stations and their respective devices (IF-MUX, RFU and antenna). Sectors are defined from Cell View, according to the RFUs and antennas located at the Base Station in your WALKair network. The direction and angle of coverage of an antenna determine the heading and beam width of a sector. The number of sectors that can be defined for a cell depends on the antenna beam width, as follows:

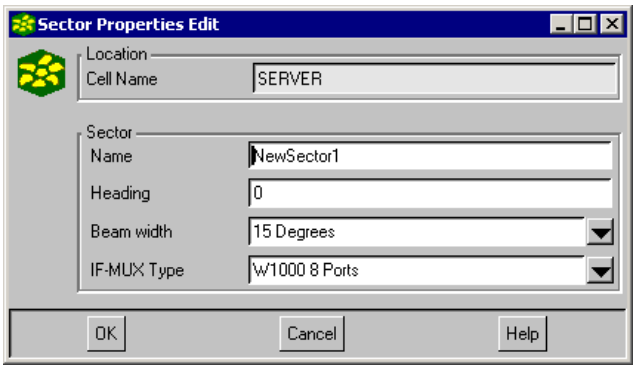
Antenna Beam Width	Maximum Number of Sectors
15°	24
30°	12
45°	8
60°	6
90°	4
120°	3
180°	2
360°	1

For detailed descriptions and specifications of antenna types, see the *WALKair System Description*.

To create a sector:

1 In Cell View, select **New** from the *Sector* menu. The *Sector Properties Edit* dialog box is displayed:

Figure 4-6: Sector Properties Edit Dialog Box



Note

The **Cell Name** field is a read-only field that displays the name of the cell for which the sector is defined.

2 In the **Name** field, enter a name (with no blank spaces) for the sector.

3 In the **Heading** field enter the direction in which the antenna is facing, from **0** to **360**.

4 From the dropdown list in the **Beam width** field, select the angle of the sector.

5 In the **IF-MUX** Type field, select the type of the IF-MUX at the Base Station.

6 Click **OK**. The new sector is created and is displayed in the **List of sectors** in Cell View.

Displaying Sector View

Sector View displays configuration information for a sector and enables you to configure a sector by defining BS-BUs, within it. Sector View depends upon the selected IF-MUX type. For example, if the IF-MUX type is **W1000 8** Ports or **W1000 16** Ports you will see Sector View that contains WALKair 1000 BS-BUs only; if it's IF-MUX type is **W3000 6** Ports, you will see a Sector View that contains both WALKair 1000 BS-BUs and a WALKair 3000 Shelf. In addition, if the IF-MUX type is **W3000 2 Ports** or **W3000 None**, you will see a Sector View that contains both WALKair 1000 BS-BUs and WALKair 3000 Stand-Alone BS-BUs.

To access Sector View:

Sector View is accessed in one of the following ways:

- In the Network Navigation Tree, by double-clicking a sector node.
- In Cell View, by double-clicking a sector in the **List of sectors**.
- In Cell View, by selecting a sector in the **List of sectors**, and selecting **View** from the *Sector* menu.
- In the Main window, by selecting **Sector** from the *Configuration* menu, or clicking **View Sector** in the toolbar. Then browsing to the required sector in the *Browse Sector* dialog box, and clicking **OK**.

Sector View for the selected sector is displayed:

Figure 4-7: Sector View: W1000 IF-MUX, with WALKair 1000 BS-BUs only

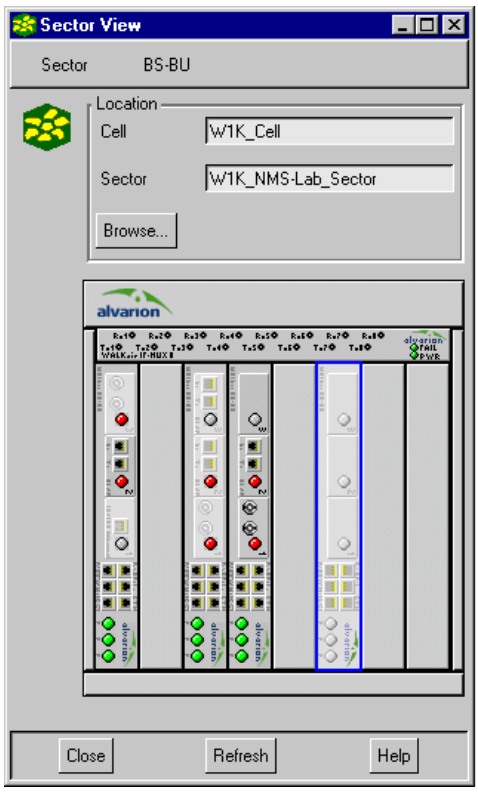


Figure 4-8: Sector View: W3000 IF-MUX, with both WALKair 1000 BS-BUs and WALKair 3000 Shelf

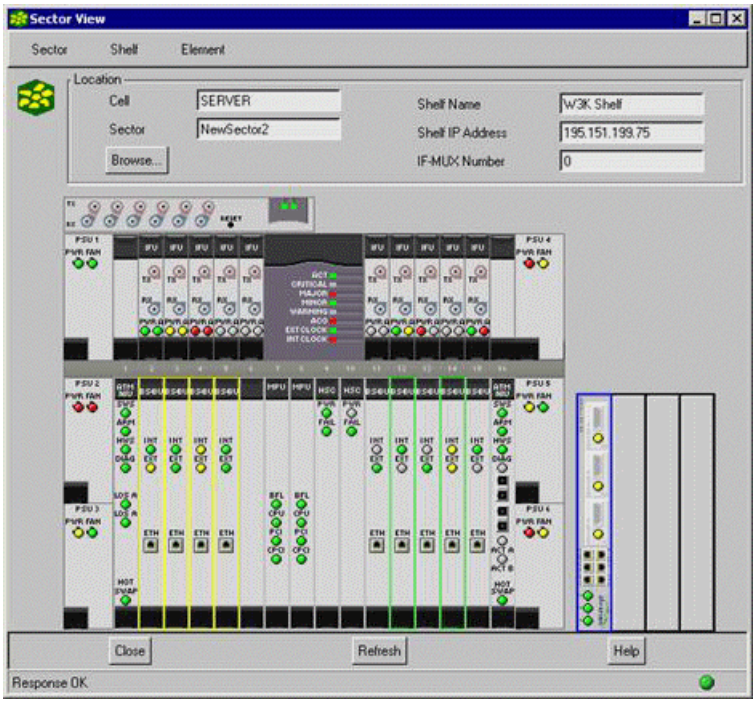
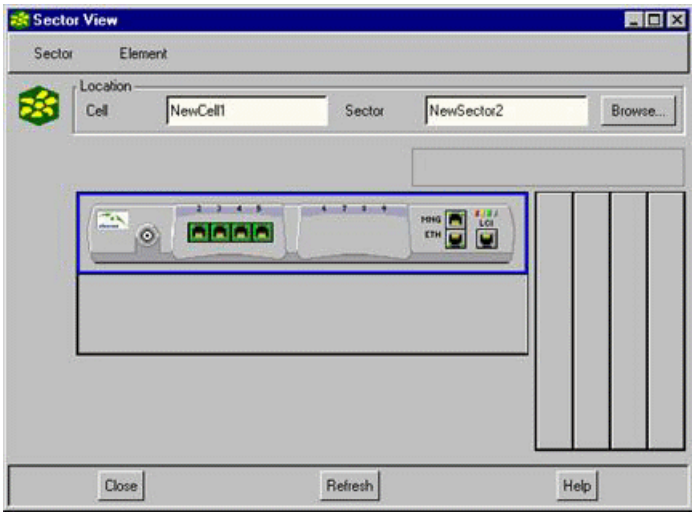


Figure 4-9: Sector View: WALKair 3000 Stand-Alone BS-BU only



Sector View displays the configuration parameters of the selected sector, which are read-only. Roll the mouse over a parameter to display its name (if defined) or its IP address. To modify the configuration parameters, see "Modifying Sector Properties" on page 4-15.

The following parameters displayed in Sector View:

Location area	
Cell	The name of the cell for which this sector has been defined.
Sector	The name of the sector.
Browse	Enables you to display configuration information in the open Sector View for another sector in any cell in the same map.

The following parameters will appear in Sector View for sectors defined by the W3000 6 Ports IF-MUX **(for a W3000 Shelf)**:

Location Area (Shelf-only)	
Shelf Name	The name of the WALKair 3000 shelf.
Shelf IP Address	The IP address of the WALKair 3000 shelf.
IF-MUX Number	The number of IF-MUXs selected to serve this sector. The value is between 0 and 7 (as defined by the DIP switch on the IF-MUX).

From Sector View, you can do the following:

- Display configuration information for another sector in any cell in the same map (see “Horizontal Navigation” on page 2-19)
- Edit sector properties (see “Modifying Sector Properties” on page 4-15)
- Assign frequencies to BS-BUs (see “Frequency Planning” on page 4-77)
- Configure RFU and antenna parameters for this sector (see “Configuring the RFU and Antenna” on page 4-82)
- Define new BS-BUs (see “Creating Base Station Basic Units” on page 4-30)
- Modify or delete existing BS-BUs (see “Deleting and Editing BS-BUs” on page 4-34)
- Access Base Station BU View for a selected BS-BU (see “Displaying Base Station BU View” on page 4-31)
- Move a BS-BU to a different slot (see “Moving BS-BU Slot Positions” on page 4-37)

For sectors defined by a W3000 6 Ports IF-MUX, you also can do the following:

- Edit shelf properties (see “Editing a Shelf” on page 4-16)
- Edit IF-MUX properties (see “Edit IF-MUX Properties” on page 4-17)
- Define a new chassis card (BU, NIU or HSC) (see “Creating a New Chassis Slot Card” on page 4-27)
- Change the chassis card type (see “Changing Chassis Slot Card Type” on page 4-27)
- Delete an existing chassis card (see “Deleting Chassis Slot Card” on page 4-27)
- Access another chassis card View and Edit Properties (see Chapter 5, “Shelf Management”)

- Move a card to a different slot (see "Moving a Card to Another Chassis Slot in Chassis" on page 4-28)
- Access Power Supply Unit properties for a selected Power Supply Unit card (see Power Supply Unit Management in Chapter 5, "Shelf Management")
- Access Power Input Board properties (see Power Input Board Management in Chapter 5, "Shelf Management")
- Access Fan properties (see Fan Management in Chapter 5, "Shelf Management")

The next step in configuring a cell in WALKair 1000 system is to define base units within sectors (see "WALKair 1000 Base Station Basic Unit Management" on page 4-30 for details).

The next step in configuring a WALKair 3000 system is to configure a shelf and chassis (see Chapter 5, "Shelf Management", for details).

Deleting and Editing Sectors

Sectors can be deleted from a cell or their properties can be modified.

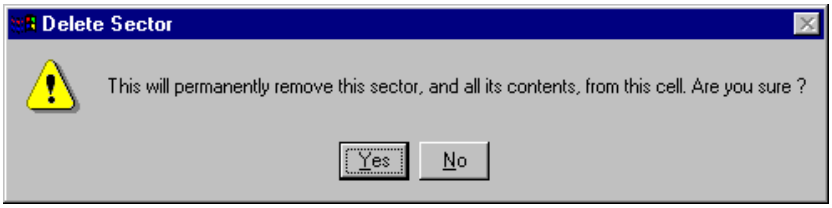
Deleting Sectors

Deleting sectors from a cell also deletes the entire sector configuration.

To delete a sector:

1 In Cell View, select a sector in the **List of sectors**, and select **Delete** from the **Sector** menu. The following Delete Sector confirmation message is displayed:

Figure 4-10: Delete Sector Confirmation Message



2 Click **Yes** to delete the sector from the cell.

Modifying Sector Properties

Modifying the properties of a sector enables you to modify the name and configuration parameters of the sector.

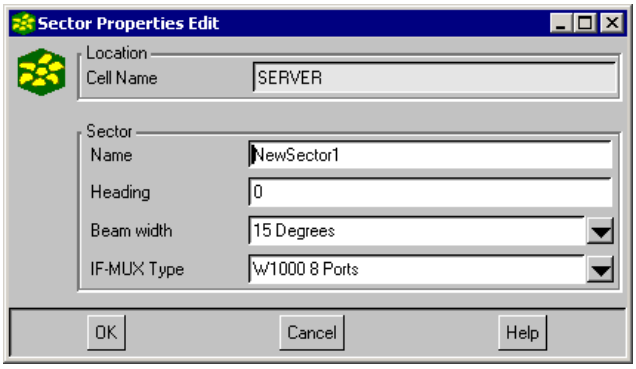
To modify sector properties:

1 Open the *Sector Properties Edit* dialog box in one of the following ways:

- ◇ In Cell View, by selecting a sector in the **List of sectors**, and selecting **Edit** from the *Sector* menu.
- ◇ In Sector View, by selecting **Edit Sector** from the *Sector* menu.

The *Sector Properties Edit* dialog box is displayed:

Figure 4-11: Sector Properties Edit Dialog Box



2 Modify the **Name**, **Heading**, **Beam width** and **IF-MUX Type** fields as required, and click **OK**.

Note

If **IF-MUX Type** is **W3000 6 Ports**, **W3000 2 Ports** or **W3000 None**, this value cannot be changed (this field is disabled).

Sector Configuration Wizard (Shelf only)

The Sector Configuration Wizard guides you through the W3K Sector definition by setting all necessary parameters. The wizard contains two screens: The *W3K Shelf Properties* screen, and the *W3K IF-MUX Properties* screen. To run the wizard, select **Sector Configuration Wizard** from the *Sector* menu in Sector View.

Editing a Shelf

Editing shelf properties enables you to define and modify the shelf IP address and SNMP configuration parameters.

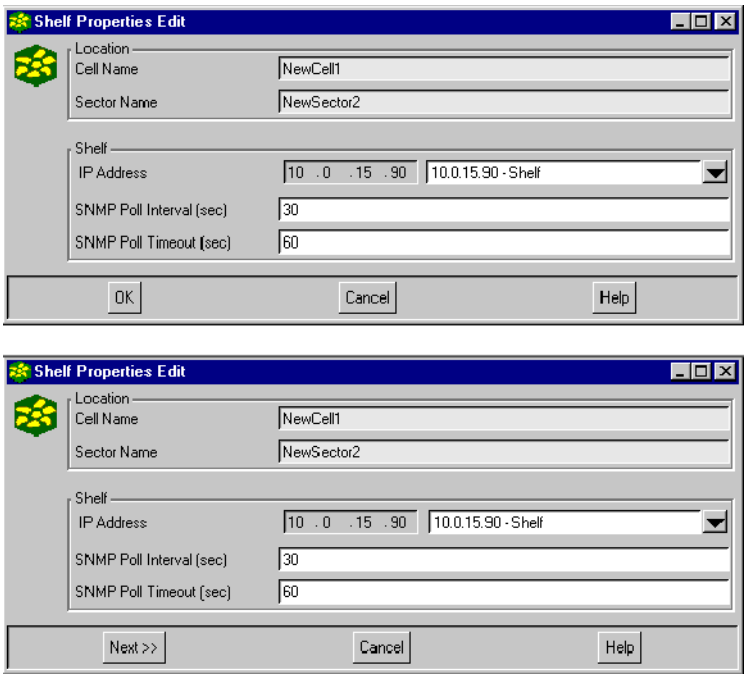
To edit shelf:

1 Open the *Shelf Properties Edit* dialog box in one of the following ways:

- ◇ In Sector View, by selecting **Sector Configuration Wizard** from the *Sector* menu.
- ◇ In Sector View, by selecting **Edit Shelf** from the *Sector* menu.

The *Shelf Properties Edit* dialog box is displayed, as shown in one of the two windows below, depending on how it was accessed.

Figure 4-12: Shelf Properties Edit Dialog Box



If this dialog box is accessed from the ***Sector Configuration Wizard***, the **Next** button applies the shelf properties and opens the *Edit IF-MUX Properties* dialog box (bottom window in figure).

OR—

If this dialog box is accessed from selecting ***Edit Shelf***, the **OK** button applies the shelf properties (top window in figure).

Note

The **Cell Name** and **Sector Name** fields are read-only fields that display the names of the cell and sector.

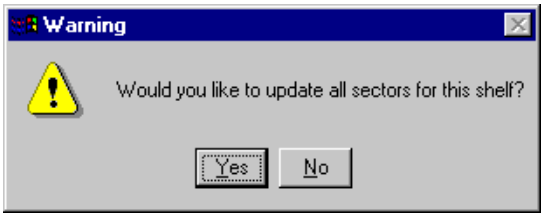
2 In the **IP Address** field, select the shelf IP address from the list of defined shelves, or select **New IP Address** and enter the new IP address for the shelf.

3 In the **SNMP Poll Interval (sec)** field, enter how often the NMS is polling the shelf.

4 In the **SNMP Poll Timeout (sec)** field, enter the timeout period. If there is no response from the shelf during this period, it is considered disconnected.

The following dialog box is displayed when you change the shelf's IP address:

Figure 4-13: Update All Sectors Confirmation Message



Clicking **Yes** means that for all sectors in which this shelf is referred to, the old shelf IP address will be replaced with the new one.

Clicking **No** means that only the current sector is updated.

Edit IF-MUX Properties

Editing IF-MUX properties enables you to select the IF-MUX for the sector and to define its parameters.

To edit IF-MUX properties:

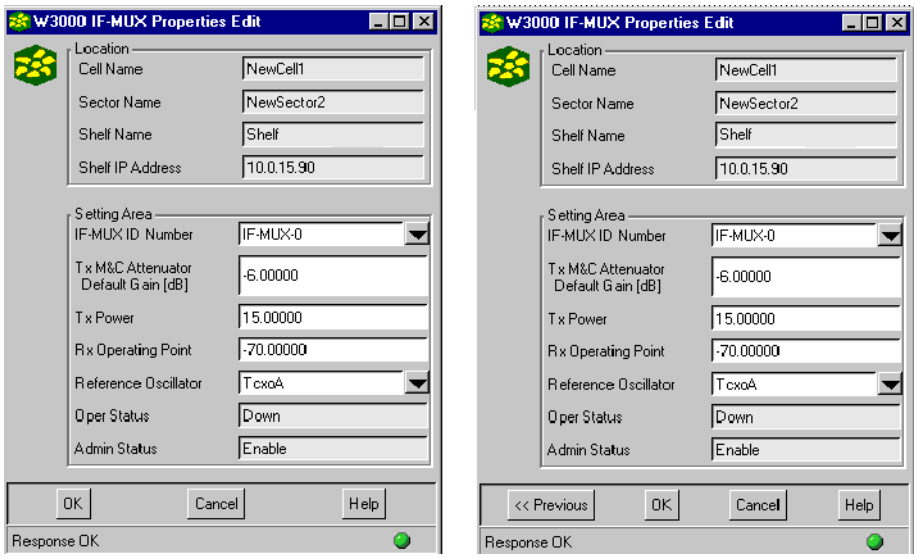
1 Open the *W3K IF-MUX Properties* dialog box in one of the following ways:

◇ In Sector View, by selecting **Edit IF-MUX Properties** from the *Sector* menu.

◇ By clicking the **Next** button in the first *Sector Configuration Wizard* screen.

The *W3000 IF-MUX Properties* dialog box is displayed as shown in one of the two windows below, depending on how it was accessed.

Figure 4-14: W3000 IF-MUX Properties Dialog Box



If this dialog box is accessed from the ***Sector Configuration Wizard***, a **Previous** button returns the user to the **Shelf Properties Edit** Dialog box, and **OK** applies the IF MUX properties (right window in figure).

OR—

If this dialog box is accessed from selecting ***Edit IF MUX Properties***, the **OK** button applies the IF MUX properties (left window in figure).

Note

The **Cell Name**, **Sector Name**, **W3K Shelf Name** and **Shelf IP Address** fields are read-only fields that display the names of the cell, the defined Shelf sector, and the Shelf IP address.

2 In the Setting Area, Select an IF-MUX number from the IF-MUX UD Number list.

3 In the **Tx M&C Attenuator Default Gain [dB]** field, modify the IF-MUX TX VVA default value.

Default for 26 GHz system = **– 6.00000**

Default for 28 GHz system = **– 1.00000**

4 In the Tx Power field, modify the target Tx power.

5 In the **Rx Operating Point** field, modify the target default Rx power per carrier, in dBm, at the antenna.

6 In the **Reference Oscillator** field define active TCXO (A or B) in the IF-MUX.

7 Click **OK** to save any modifications, **Cancel** to exit without changes or **Help** to open the Help window.

Shelf Management

Displaying Shelf View

Shelf View displays IF-MUXs, chassis slot cards, IFUs, Power Supply Units, and so on and enables you to configure a shelf by defining and configuring BS-BU, MPU, NIU, HSC cards and IF-MUXs within it.

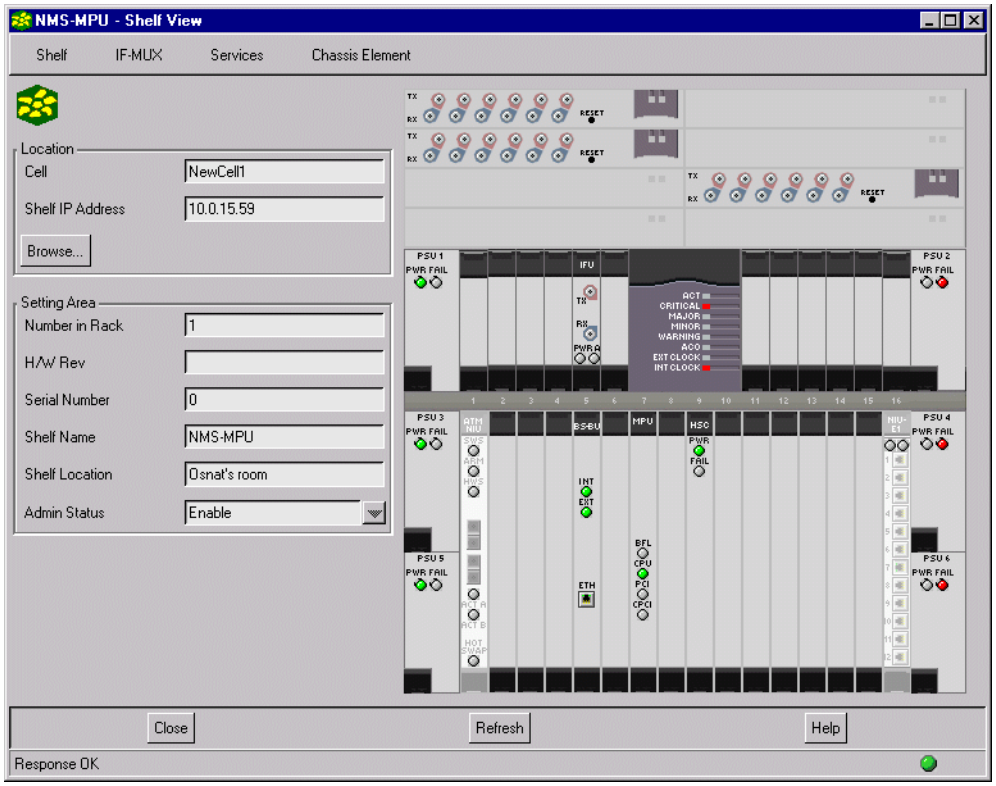
To access Shelf View:

Shelf View is accessed in one of the following ways:

- In the Network Navigation Tree, by double-clicking a shelf node.
- In Sector View, by selecting **View** from the *Shelf* menu.

Shelf View is displayed:

Figure 4-15: Shelf View



The following parameters are displayed in Shelf View:

Location area	
Cell	The name of the cell.
Shelf IP Address	The IP address of the W3K shelf.
Browse	Enables you to display configuration information in the open Shelf View for any other shelf in any cell within the same map.

The following parameters will appear in Sector View for sectors defined by the W3000 6 Ports IF-MUX **(for a W3000 Shelf)**:

Settings area	
Number in Rack	The shelf number in the rack.
HW Revision	The shelf's hardware revision number.
Serial Number	The shelf's serial number.

Shelf Name	The system name of the shelf.
Shelf Location	The physical location of the shelf.
Admin Status	The administrative status of the shelf.

From Shelf View, you can do the following:

- Analyze the shelf configuration parameters and examine the shelf elements LEDs.
- Display configuration information for another shelf in any cell in the same map (see "Horizontal Navigation" on page 2-19)
- Edit shelf properties (see "Editing Shelf Properties" on page 4-22): SNMP configuration, system clock, and minimum alarm severity
- Edit IF-MUX properties (see "Editing IF-MUX Properties" on page 4-25)
- Define new chassis cards (BU, NIU or HSC) (see "Creating a New Chassis Slot Card" on page 4-27)
- Change type or delete existing chassis cards (see "Changing Chassis Slot Card Type" on page 4-27)
- Access Chassis Card View and edit properties (see Chapter 5, "Shelf Management")
- Move chassis card to a different slot (see "Moving a Card to Another Chassis Slot in Chassis" on page 4-28)
- Access IF Unit View for a selected IF (Intermediate-Frequency) Unit (see "Intermediate Frequency Unit (IFU) Management" on page 5-32 in Chapter 5, "Shelf Management")
- Access Power Supply Unit View for a selected Power Supply Unit (see "Power Supply Unit (PSU) Management" on page 5-35 in Chapter 5, "Shelf Management")
- Access Power Input Board View (Chapter 5, "Shelf Management")

- Access Fan View (see "Fan Management" on page 5-39 in Chapter 5, "Shelf Management")

- Save defined system services or topology on the shelf MPU (see "Saving an MPU Configuration" on page 5-13 in Chapter 5, "Shelf Management")

Note

The LED display in Shelf View provides a graphical representation of the shelf front panel. The LEDs are updated according to the **Shelf Poll Interval** SNMP parameter.

Editing Shelf Properties

SNMP, System Clock, Minimum Alarm Severity

In Shelf Properties, you can set the SNMP configuration, set the system clock, and set the minimum alarm severity.

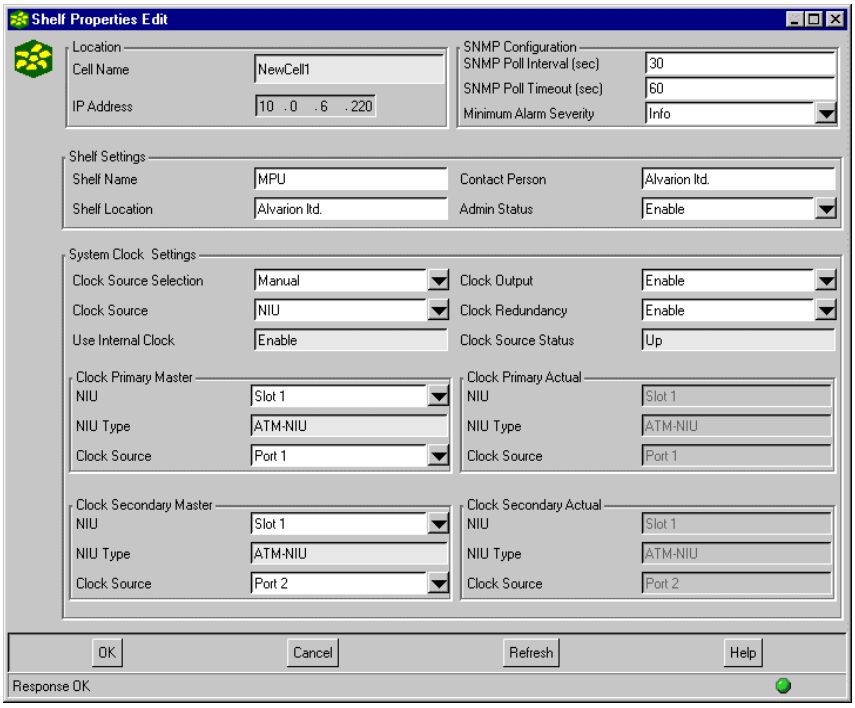
To edit shelf properties:

1 Open the *Shelf Properties Edit* dialog box in one of the following ways:

- ◇ In Shelf View, by selecting **Edit Properties** from the *Shelf* menu.
- ◇ In Sector View for sectors defined by *W3000 6 Ports* IF-MUX, by selecting **Edit Properties** from the *Shelf* menu.

The *Shelf Properties Edit* dialog box is displayed:

Figure 4-16: Shelf Properties Edit Dialog Box



2 In the **SNMP Poll Interval (sec)** field, enter in how often the NMS is polling the shelf (in seconds).

3 In the **SNMP Poll Timeout (sec)** field, enter the timeout period (in seconds). If there is no response from the shelf within this period, its status is considered disconnected.

4 In the SNMP Configuration area, from the **Minimum Alarm Severity** drop-down list, select the required Alarm Severity (the minimum level of alarms to be displayed). The options are as follows:

- ◇ Info - All alarms displayed
- ◇ Critical - Only Critical alarms displayed
- ◇ Major - Major and Critical alarms displayed
- ◇ Minor - Minor, Major and Critical alarms displayed
- ◇ Warning - Warning, Minor, Major and Critical alarms displayed

5 Modify the text fields identifying the name, location of the system, and a contact person.

6 In the **Admin Status** field, select the administrative status of the shelf from the dropdown list.

Note

The system default for the clock source is a Clock Primary Master in an NIU card (on Port #1) in slot #1 of the shelf. If **Clock Redundancy** is applied, the system default for Clock Secondary Master (that will replace the Primary in the event of failure) is an NIU card (on Port #1) in slot #2 of the shelf.

7 In the **Clock Source Selection** field, choose the clock selection mode—**Manual** or **Automatic**—from the dropdown list. When the clock selection mode is **Automatic**, the clock source is selected automatically by the MPU, and the system clock settings in the dialog are grayed.

8 When you select **Manual** as the clock selection mode, select a clock source from the **Clock Source** field dropdown list, as follows:

- ◇ **External**—external clock source via NIU card (external clock input according to G.703.2 MHz clock synchronization)
- ◇ **NIU**—from an NIU card
- ◇ **Internal**—via BS-BU cards' internal clock

9 Select **Enabled** in the **Clock Output** field drop-down list to utilize the shelf output clock signal to synchronize other external equipment.

10 If you selected **External** or **NIU** as the clock source type: from the **Clock Redundancy** drop-down list, select **Enable** or **Disable** clock redundancy to permit or prevent moving to a Secondary Clock Master when the Primary Clock Master fails.

Note

For an Internal clock source, redundancy is not available.

11 If you selected **Manual** as the selection mode *and* **NIU** as the clock source: In the **Clock Primary Master** section of the dialog, select a shelf slot number (from the NIU drop-down list) where the ATM-NIU or 12 x E1-NIU card that will be the Primary Clock Master is placed in the Clock Primary Master field. Select also the port on the card (from the Clock Source drop-down list).

12 If you selected Manual as the selection mode *and* **NIU** as the clock source *and* you have enabled **Clock Redundancy**: In the **Clock Secondary Master** field, select a slot number where the ATM-NIU or 12xE1-NIU card that will be Secondary Clock Master is placed. Select **Not Specified** for when no Secondary Master is defined (this is for redundancy disabled).

13 Click **OK** to save any modifications made to the properties of the Shelf.

Note

The **Cell Name** and **IP Address** fields are read-only fields that display the cell name and the Shelf IP address.

Editing IF-MUX Properties

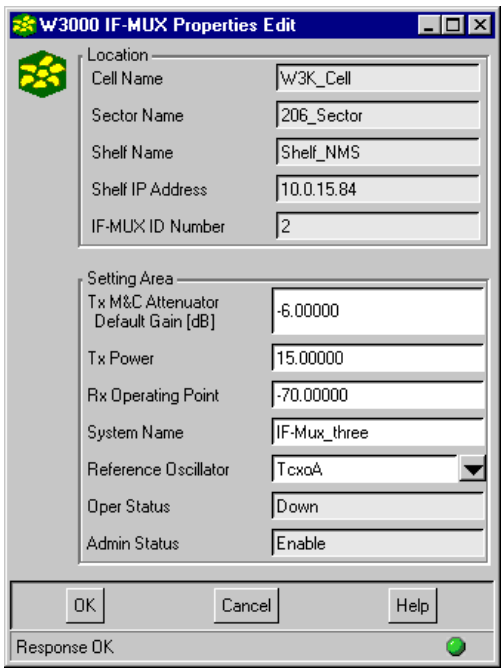
To edit IF-MUX properties:

1 Open the *W3000 IF-MUX Properties* dialog box in one of the following ways:

- ◇ In the Network Navigation Tree, by double-clicking an IF-MUX node.
- ◇ In Shelf View, by double-clicking an IF-MUX.
- ◇ In Shelf View, by selecting an IF-MUX, and selecting **Edit Properties** from the *IF-MUX* menu.

The *W3000 IF-MUX Properties Edit* dialog box is displayed:

Figure 4-17: W3000 IF-MUX Properties Edit Dialog Box



2 In the **Tx M&C Attenuator Default Gain** field, modify the IF-MUX TX VVA default value, if necessary:

Default for 26 GHz system = **– 6.00000**

Default for 28 GHz system = **– 1.00000**

3 In the **Tx Power** field, modify the target Tx power per W3K carrier, in dBm, at the antenna.

4 In the **Rx Operating Point** field, modify the target default Rx power per carrier, in dBm, at the antenna.

5 In **System Name** field, insert the system name of IF-MUX.

6 In the **Reference Oscillator** field, define active TCXO (A or B) in the IF-MUX.

7 Click **OK** to save any modifications made to the properties of the IF-MUX.

Creating a New Chassis Slot Card

To create a new card:

1 In the chassis picture, select an empty slot.

2 From the *Chassis Element* menu, select **Chassis Slot** from the Chassis Element menu, then **New**, and then the type of new card.

3 The new card is displayed in the selected slot in Chassis View.

Note

If a configured card is not detected (empty slot), or if a detected card is not configured (configured type not equal to detected type), the card picture will appear in gray.

Deleting Chassis Slot Card

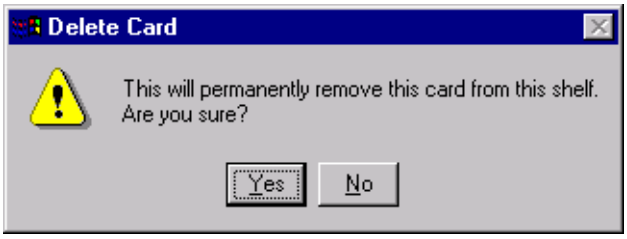
To delete a card:

1 In the chassis picture, select a slot.

2 From the *Chassis Element* menu, select **Chassis Slot**, then **Delete**.

3 The following Delete Chassis Slot Card confirmation message is displayed:

Figure 4-18: Delete Chassis Slot Card Confirmation Message



4 Click **Yes** to delete a card from the chassis.

Changing Chassis Slot Card Type

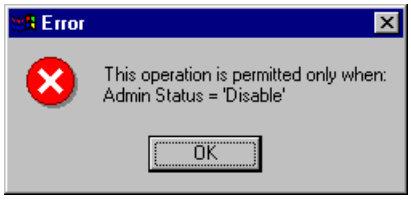
To change chassis slot card type:

1 In the chassis picture, select a card.

2 From the *Chassis Element* menu, select **Chassis Slot** from the **Chassis Element** menu, then **Change Card Type**, and then the new card type. The type of card selected card is changed.

Note

You can change card type only for cards with an **Admin status** of **Disable**. If the **Admin status** of the card is **Enable**, the following error message is displayed:



Moving a Card to Another Chassis Slot in Chassis

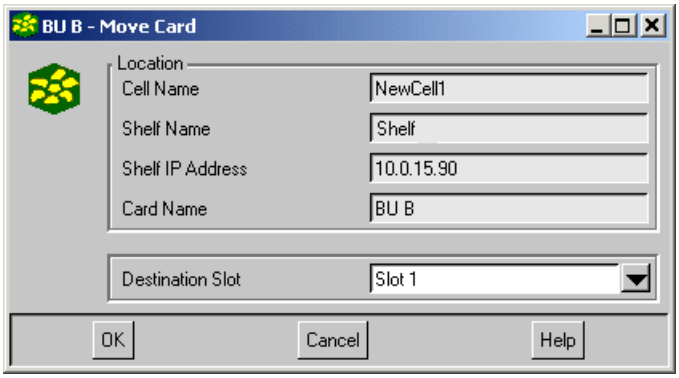
A chassis slot card can be moved from one slot to another in the chassis to ensure a correct correlation between the physical rack placement of the units, and the position indicated in the WALKnet software.

To move a card:

1 In the chassis picture, select a slot where the required card is defined.

2 From the *Chassis Element* menu, select **Chassis Slot**, then **Move**. The *Hsc9 Move Card* dialog box is displayed:

Figure 4-19: Hsc9 Move Card Dialog Box



3 Select the slot to which you want to move the selected card from the dropdown list in the **Destination Slot** field, and click **OK**. The selected card is moved to the new slot position.

Base Station Basic Unit Management

WALKair 1000 Base Station Basic Unit Management

Creating Base Station Basic Units

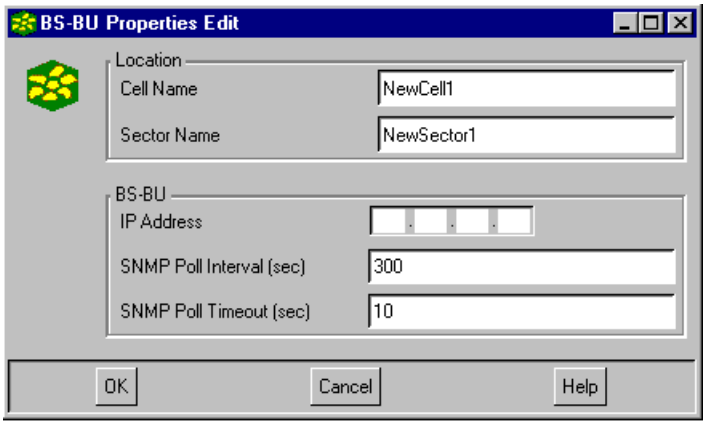
Base Station Basic Units (BS-BU) are identified by their IP Address, rather than a name like cells and sectors. Once a BS-BU has been defined, its configuration parameters and its registered Terminal Station Basic Units (TS-BUs) are accessible.

To create a BS-BU:

1 In the Sector View, select an empty slot position.

2 From the *BS-BU* menu, select **New** or double-click on the selected empty slot. The *BS-BU Properties Edit* dialog box is displayed:

Figure 4-20: BS-BU Properties Edit Dialog Box



Note

The **Cell Name** and **Sector Name** fields are read-only fields that display the names of the cell and sector for which the BS-BU is defined.

3 In the **IP Address** field, enter the IP address of the BS-BU.

4 In the **SNMP Poll Interval (sec)** field, enter how often the NMS is polling the BS-BU.

5 In the **SNMP Poll Timeout (sec)** field, enter the timeout period. If there is no response from the BS-BU for this period, its status is considered disconnected.

6 Click **OK**. The new BS-BU is created and is displayed in the selected slot in Sector View.

Displaying Base Station BU View

Base Station BU View enables you to specify the configuration parameters of the BS-BU and access associated Terminal Stations.

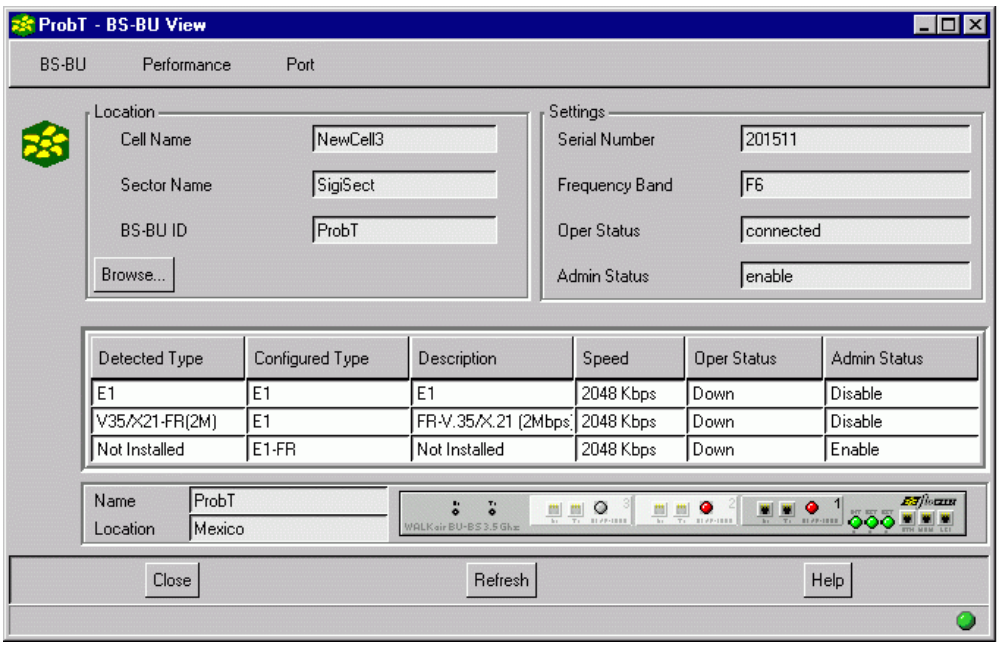
To access Base Station BU View:

Base Station BU View is accessed in one of the following ways:

- In the Network Navigation Tree, by double-clicking a BS-BU node.
- In Sector View, by double-clicking a BS-BU.
- In Sector View, by selecting a BS-BU, and selecting **View** from the *BS-BU* menu.
- In the Main window, by selecting **BS-BU** from the *Configuration* menu, or clicking **View BS-BU** in the toolbar. Browse to the required BS-BU in the *Browse BS-BU* dialog box, and click **OK**.

The ProbT—Base Station BU View for the selected BS-BU is displayed:

Figure 4-21: Base Station BU View



Note

The LED display at the bottom of Base Station BU View provides a graphical representation of the front panel of the BS-BU. The LEDs are updated according to the **Gen Poll Interval** SNMP parameter. See Chapter 10, "Utilities" for details.

Base Station BU View displays the configuration parameters of the selected BS-BU. The parameters are read-only. In order to modify the configuration parameters, see "Modifying BS–BU Properties" on page 4-35.

The following parameters are displayed in Base Station BU Views:

Location area	
Cell Name	The name of the cell for which this BS–BU has been defined.
Sector Name	The name of the sector for which this BS–BU has been defined.
BS-BU ID	The system name if defined for the BS–BU or, when no system name is defined, the IP address of the BS–BU. The system name is defined in the *BS–BU Properties Edit* dialog box.
Browse Button	Enables you to display configuration information in the open Base Station BU View for another BS–BU in any sector in any cell in the same map.
Settings area	

Serial Number	The serial number of the BS–BU.
Frequency Band	The frequency at which the BS–BU is operating.
Oper Status	The operational status of the BS–BU: **Connected**, (meaning that at least one TS–BU is synchronized with the BS–BU), or **Disconnected**.
Admin Status	The administrative status of the BS–BU: **Enabled** or **Disabled**.
Ports area	A list of telecom ports on the BS–BU.
Detected Type	The type of telecom interface card installed/detected: **E1, E1-75/120W, V.35/X.21, E1-FR, V.35/ X.21-FR (2M)** or **V.35/X.21-FR (4M)**.
Configured Type	The type of telecom interface card configured: **E1, E1-75/120W, V.35/X.21, E1-FR, V.35-FR (2M), X.21 FR (2M), V.35-FR (4M)** or **X.21 FR (4M)**.
Description	A full description of the interface.
Speed	The data transfer rate in Kbps.
Oper Status	The operational status of the telecom interfaces: **up** or **down**.
Admin Status	The administrative status of the telecom interfaces: **Enabled** or **Disabled**.
Name	The name of the BS–BU.
Location	The location of the BS–BU.

From Base Station BU View, you can do the following:

- Display configuration information for another BS–BU in any sector in any cell in the same map (see "Horizontal Navigation" on page 2-19)
- Edit BS–BU properties (see "Modifying BS–BU Properties" on page 4-35)
- Display the Terminal Stations registered to this BS–BU (see "Displaying Terminal Station BU View" on page 4-61)
- Define leased line services between telecom ports (see Chapter 7, "System Services Configuration")

- Configure RFU and antenna parameters (see "WALKair 1000 RFU and Antenna Configuration from Sector View" on page 4-82)
- Define Trap destinations and authorized managers (see Chapter 10, "Utilities")
- Perform software downloads to the BS-BU (see Chapter 10, "Utilities")
- Download and upload the configuration parameters of the BS-BU (see Chapter 10, "Utilities")
- View resident software versions on the BS-BU (see Chapter 10, "Utilities")
- Configure and manage V5 interfaces, subscribers and quality of service (see Chapter 7, "System Services Configuration").
- Configure Frame Relay services (see Chapter 7, "System Services Configuration")
- Edit the configuration of a port and change the configured type of port (see Chapter 6, "Telecom Port Configuration")

The next step in configuring a cell is to define the Terminal Stations registered to the BS-BUs. See "Modifying TS-BU Properties" on page 4-65 for details.

Deleting and Editing BS-BUs

BS-BUs can be deleted from a sector or their properties can be modified.

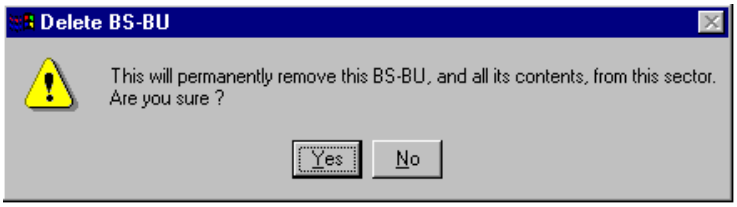
Deleting BS–BUs

Deleting BS–BUs from a sector permanently removes the BS-BU and all its components from the sector.

To delete a BS-BU:

1 In Sector View, select a BS-BU slot, and select **Delete** from the *BS-BU* menu. The Delete BS-BU confirmation message is displayed:

Figure 4-22: Delete BS-BU Confirmation Message



2 Click **Yes** to delete the BS-BU from the sector.

Modifying BS–BU Properties

You can modify the properties of a BS-BU from Sector View or Base Station BU View.

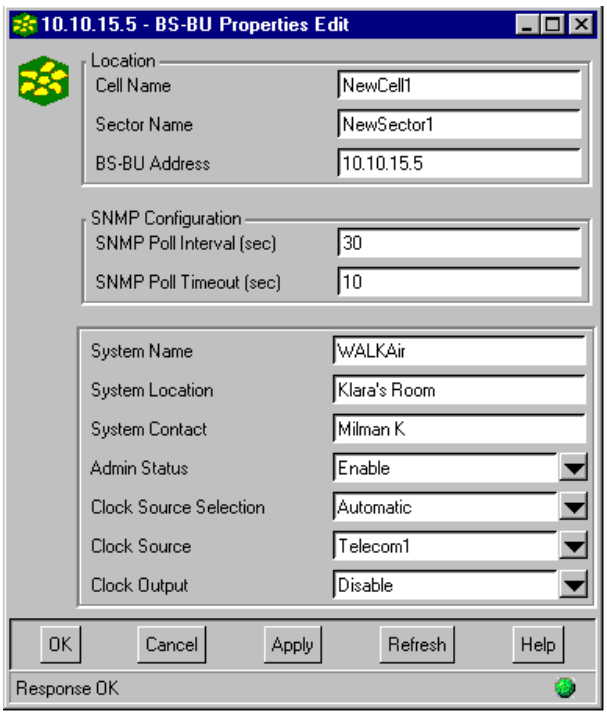
To modify BS-BU properties:

1 Open the *BS-BU Properties Edit* dialog box in one of the following ways:

- ◇ In the Sector View, by selecting a BS-BU slot, and selecting **Edit** from the *BS-BU* menu,
- ◇ In the Base Station BU View, by selecting **Edit BS-BU** from the *BS-BU* menu.

The *BS-BU Properties Edit* dialog box is displayed:

Figure 4-23: BS-BU Properties Edit Dialog Box



Note

The **Cell Name, Sector Name** and **BS-BU Address** fields are read-only fields that display the names of the cell and sector for which the BS-BU is defined and the BS-BU IP address.

2 In the **SNMP Poll Interval (sec)** field, modify how often the NMS is polling the BS-BU.

3 In the **SNMP Poll Timeout (sec)** field, modify the timeout period.

4 Modify the text fields identifying the name and location of the system, and a contact person.

Note

When you define a system name for the BS-BU, that name appears in the **BS-BU ID** field and the title bar of the BS-BU dialog boxes. When no system name is entered, the IP address of the BS-BU appears in the **BS-BU ID** field and the title bar of the BS-BU dialog boxes.

5 In the **Admin Status** field, select the administrative status of the BS-BU from the dropdown list.

6 In the **Clock Source Selection** field, select the clock selection mode—**Manual** or **Automatic**—from the dropdown list. When the clock selection mode is **Automatic**, the clock source is selected by the Base Station.

7 When you select **Manual** as the clock selection mode, select a clock source from the dropdown list in the **Clock Source** field:

- ◇ Internal
- ◇ External
- ◇ Telecom1
- ◇ Telecom2
- ◇ Telecom3

8 In the **Clock Output** field, select **Enabled** to utilize the Base Station output clock signal to synchronize other external equipment.

9 Click **OK** to save any modifications made to the properties of the BS-BU.

Moving BS-BU Slot Positions

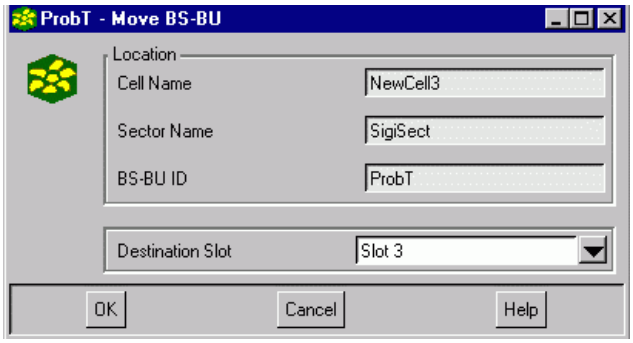
BS-BUs can be moved from one slot to another in the same sector to ensure that there is correct correlation between the physical rack placement of the units, and the position indicated in the WALKnet software.

To move a BS-BU:

1 In the Sector View, select the BS-BU slot in which the required BS-BU is defined.

2 From the *BS-BU* menu, select **Move**. The *Move BS-BU* dialog box is displayed:

Figure 4-24: Move BS-BU Dialog Box



3 In the **Destination Slot** field, select the slot to which you want to move the selected BS-BU from the dropdown list, and click **OK**. The selected BS-BU is moved to the new slot position in Sector View.

WALKair 3000 Shelf Base Station Basic Unit Management

For Stand-Alone Base Station BS-BU management, see "WALKair 3000 Stand-Alone Base Station Basic Unit Management" on page 4-49.

Creating Shelf Basic Unit Cards

Once a W3000 BS-BU has been defined, its configuration parameters and its registered Terminal Station (TSs) are accessible. A BS-BU can be defined as either a normally working (in service) card or as a redundant (standby) card that comes into service if a normally working card fails.

To create a Shelf W3000 BS-BU:

1 In Sector View or in Shelf View, select an empty slot position in the shelf.

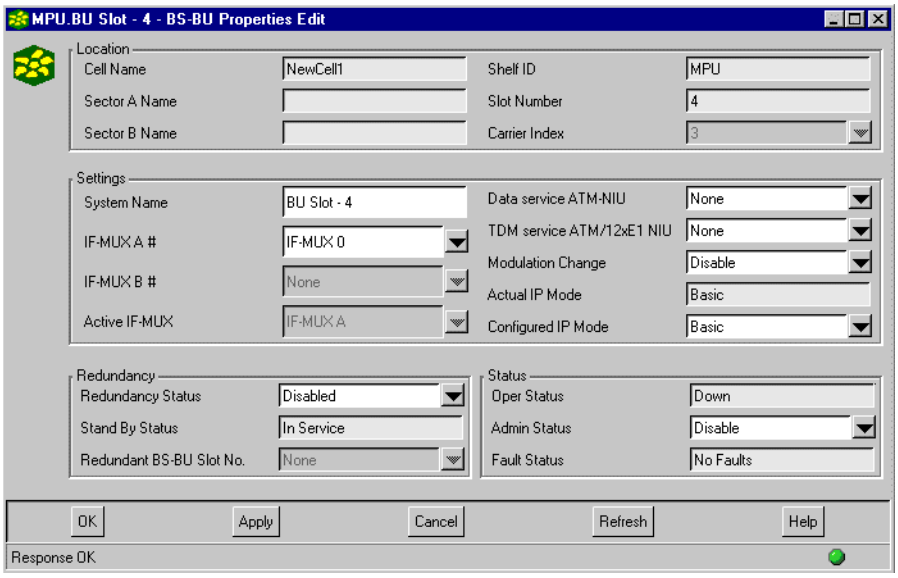
2 In Sector View select **Chassis Slot** from the *Element* menu, or select **Chassis Slot** from the *Chassis Element* menu in Shelf View. Then select **BS-BU** from the *New* submenu.

The new W3000 BS-BU is created and displayed in the selected slot.

3 Start configuring W3000 BS-BU by selecting **Chassis Slot** from the *Element* menu in Sector View, or by selecting **Chassis Slot** from the *Chassis Element* menu in Shelf View. Then select **Edit Card Properties**.

The BS-BU Properties Edit dialog box is displayed:

Figure 4-25: W3000 Shelf BS-BU Properties Edit Dialog Box



Note

The **Cell Name, Sector A Name, and Sector B Name, Shelf ID**, and **Slot Number** fields are read-only fields that display the names of the cell, shelf, and sectors for the defined W3000 BS-BU.

4 Select Carrier Index.

Note

Initially the carrier Index field has the value of the first available carrier index. You may change it by selecting any other value from the dropdown list.

5 Enter the W3000 BS-BU System Name.

6 In the **Admin Status** field, select the administrative status of the W3000 BS-BU from the dropdown list. Available values are **Enable**, **Disable** and **Redundant**.

◇ If this will normally be in service, select **Enable**.

◇ If this card will be in standby, and will come into service only if another card fails, select **Redundant**.

7 Select the IF-MUX parameters from the **IF MUX A#**, **IF MUX B#** and **Active IF-MUX** dropdown list (according to your system).

Note

A standby BS-BU must be configured for the same IF-MUX as the normally working BS-BU it will replace.

8 From the dropdown lists, select connected ATM-NIU or 12xE1-NIU card numbers for Data and TDM services.

9 The *Modulation Change* enables to descend from **QAM16** to **QPSK** modulation in case of bad link performance, and to ascend from **QPSK** to **QAM16** modulation in case of improvement in link performance. Set to **Enable** or **Disable** as required.

10 To configure the *IP Mode*, in the *Settings* area, from the *Configured IP Mode* drop-down list, choose **Basic** for **Layer 3** mode, or **Bridging** for **Layer 2** mode.

11 From the **Redundancy Status** drop-down list, select **Enable** if this card will be normally in service, and another BU (standby) will back it up. If this is a redundant (standby) card, this parameter is not relevant.

12 From the **Redundant BS-BU Slot Number** drop down list:

◇ If this card will be normally in service, and redundancy is not required, select **None**.

◇ If this card will normally be in service, and redundancy is required, select the slot number of the standby W3000 BS-BU that will come into service if this card fails.

◇ If this is a redundant (standby) card, this parameter is not relevant.

13 Click **OK** to save any modifications made to the properties of the W3000 BS-BU.

Note

You can re-configure W3000 BS-BU parameters using the *BS-BU Properties Edit* Dialog Box.

Displaying W3000 Shelf BS-BU View

BS-BU View enables you to examine the configuration parameters of the W3000 Shelf BS-BU and access associated Terminal Stations.

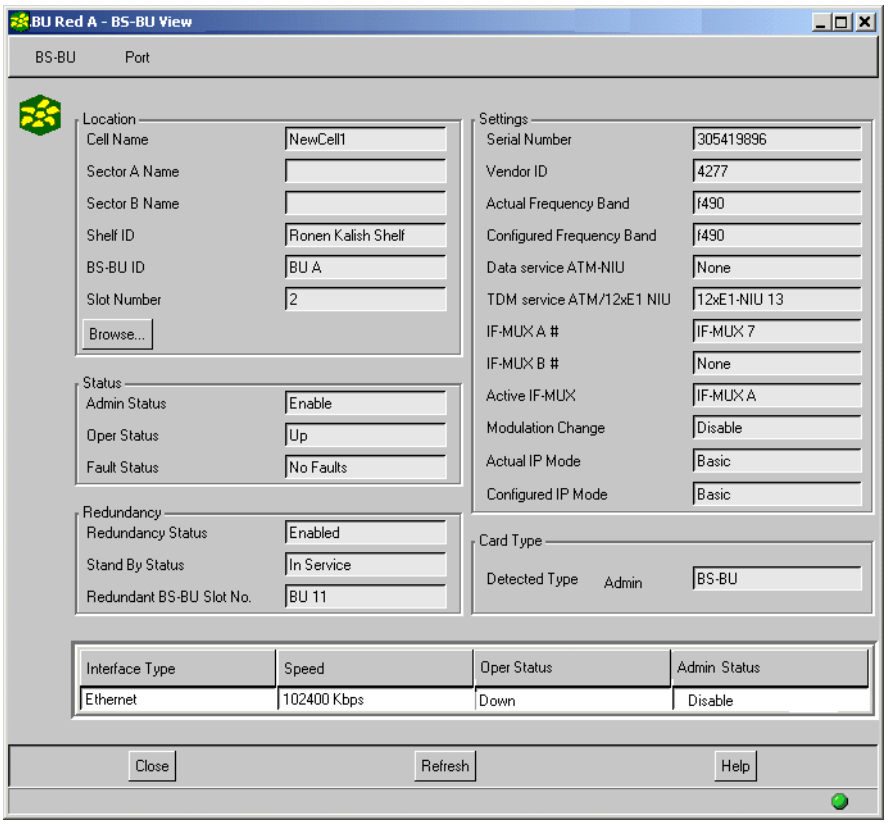
To access W3000 Shelf BS-BU View:

Shelf BS-BU View is accessed in one of the following ways:

- In Navigation Tree, by double-clicking a W3000 BS-BU node.
- In Sector View or Shelf View, by double-clicking a W3000 BS-BU Card.
- In Sector View, by selecting **Chassis Slot** from the *Element* menu, and then selecting **View**.
- From the *Chassis Element* menu in Shelf View, by selecting Chassis Slot and then select **View**.

The Shelf BS-BU View for the selected W3000 BS-BU is displayed:

Figure 4-26: W3000 Shelf BS-BU View



BS-BU View displays the configuration parameters of the selected W3000 BS-BU Card. The parameters are read-only. To modify the configuration parameters, see "Modifying W3000 Shelf BS-BU Properties" on page 4-46.

The following parameters are displayed in BS-BU View:

Location area	
Cell Name	The name of the cell for which this W3000 BS–BU has been defined.
Sector A Name	The name of the sector for which this W3000 BS-BU has been defined via IF-MUX A.
Sector B Name	The name of the sector for which this W3000 BS-BU has been defined via IF-MUX B.
Shelf ID	The name of the shelf for which this W3000 BS-BU has been defined. If Shelf name is not defined, the Shelf's IP Address is used as Shelf ID.

BS-BU ID	The system name if defined for the W3000 BS-BU or, when no system name is defined, carrier index of W3000 BS-BU is used as BS-BU ID. The system name is defined in the *BS-BU Properties Edit* dialog box.
Slot Number	Number of slot in the shelf, where this BS-BU is installed.
Browse Button	Enables you to display configuration information for another W3000 BS-BU in any sector in any cell in the same map.
Status area	
Admin Status	Administrative status of the W3000 BS-BU (**Enable, Disable** or **Redundant**).
Oper Status	Current card status (**Up, Down, Test**).
Fault status	The severity of the card fault. This is summarized information regarding the card healthiness in the slot (**No Faults, Minor, Major, Critical**).
Settings area	
Serial Number	The serial number of the W3000 BS-BU.
Vendor ID	The card vendor Id.
Actual Frequency Band	RF channel that indicates the frequency currently used for transmission.
Configured Frequency Band	The frequency currently selected for transmission. This RF channel will becomes active after the next reset. At W3000 BS-BU reset Active RF channel is set to **Configured**.
Data Service ATM-NIU	Indicates the NIU number for ATM backbone connection of the W3000 BS-BU, used for creating IP services.
TDM Service NIU (ATM/12 x E1)	Indicates the NIU number for ATM/E1 backbone connection of the W3000 BS-BU, used for creating TDM services.
IF-MUX A #	Indicates the number of the first IF-MUX connected to this W3000 BS-BU.
IF-MUX B #	Indicates the number of the second IF-MUX connected to this W3000 BS-BU.
Active IF-MUX	Displays currently active IF-MUX.

Modulation Change	Indicates if Modem Modulation Mode is selected automatically by BS-BU (**Enable**) or is manually defined (**Disable**).
Actual IP Mode	The actual IP Mode is either Basic (Layer 3) or Bridging (Layer 2).
Configured IP Mode	The configured IP Mode is either Basic (Layer 3) or Bridging (Layer 2).
Detected Card Type area	
Detected Card Type	The auto detected card type. Also indicates if a card is inserted in the slot.
Redundancy area	
Redundancy Status	Indicates if redundancy is enabled for this W3000 BS-BU (normally working). For a standby card, this parameter is irrelevant.
Stand By Status	Indicates if the board is a standby device.
Redundant BS-BU Slot Number	Indicates the slot number of the Stand by W3000 BS-BU for this card. **None** indicates that redundant card is not defined. If the card is a standby card, this parameter is irrelevant.
Port area	
Port Type	The type of the port.
Speed	The data transfer rate in Kbps.
Port Oper Status	The operational status of the port: **up** or **down**.
Port Admin Status	The administrative status of the port: **Enabled** or **Disabled**.

From BS-BU View, you can do the following:

- Display configuration information for another W3000 BS-BU in any sector in any cell in the same map (see "Horizontal Navigation" on page 2-19)
- Edit W3000 BS-BU properties (see page 4-46)
- Access the Terminal Stations registered to this W3000 BS-BU (see page 4-66)
- Edit the configuration of an onboard Ethernet port (see below)

- Manage Software Versions and Reset (see below)

Accessing Onboard Ethernet Port Configuration

Onboard Ethernet port configuration parameters may be accessed through the *BS-BU Ethernet Properties* dialog. For details, see Telecom Ports Configuration in Chapter 6, "Telecom Port Configuration"

Accessing Software Versions and Reset Management

For a detailed description of Software Versions and Reset management, see Versions and Reset Management in Chapter 10, "Utilities".

Deleting W3000 Shelf BS-BUs

Deleting W3000 BS-BU from a sector permanently removes the W3000 BS-BU and all its components from the sector.

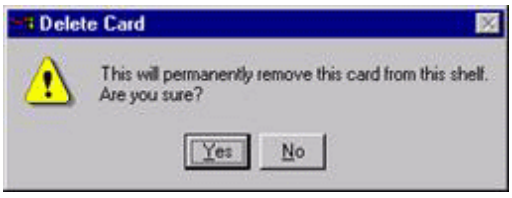
To delete a W3000 BS-BU:

1 To remove a W3000 BS-BU in one the following ways:

- ◇ In Sector View, select **Chassis Slot** from the *Element* menu and select **Delete**.
- ◇ In Shelf View, select **Chassis Slot** from the *Chassis Element* menu and select **Delete**.

The following Delete Card confirmation message is displayed:

Figure 4-27: Delete Card Confirmation Message



2 Click **Yes** to delete the W3000 BS-BU from the shelf.

Modifying W3000 Shelf BS-BU Properties

You can modify W3000 BS-BU properties from Sector View, Shelf View or BS-BU View.

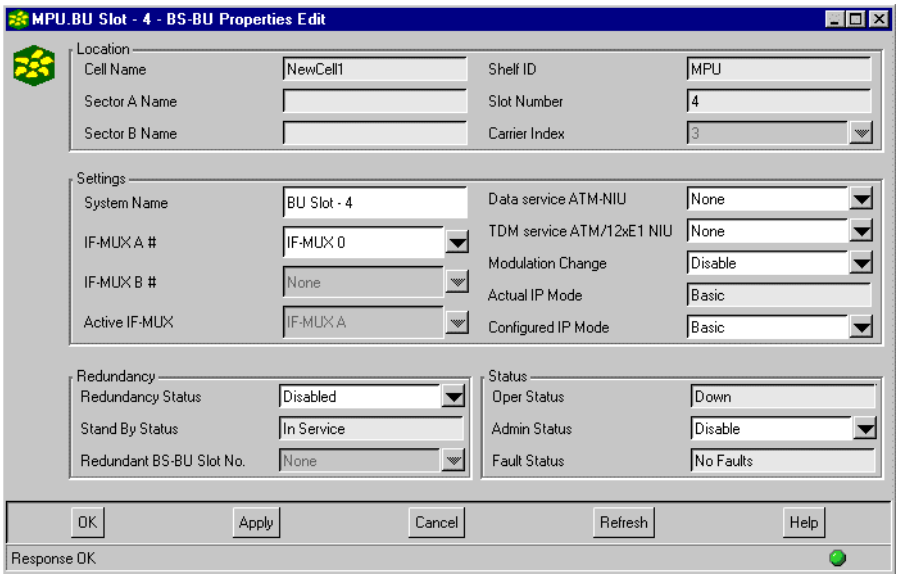
To modify W3000 BS-BU properties:

1 Open the *W3000 BS-BU Properties Edit* dialog box in one of the following ways:

- ◇ In Sector View, select **Chassis Slot** from the *Element* menu and select **Edit Card Properties**.
- ◇ In Shelf View, select **Chassis Slot** from the *Chassis Element* menu and select **Edit Card Properties**.
- ◇ In BS-BU View, select **Edit BS-BU** from the *BS-BU* menu.

The *BS-BU Properties Edit* dialog box is displayed:

Figure 4-28: BS-BU Properties Edit Dialog Box



Note

The **Cell Name** and **Sector Name** fields are read-only fields that display the names of the cell and sector for which the W3000 BS-BU is defined.

2 Modify the W3000 BS-BU name.

Note

When you define a System Name for the W3000 BS-BU, that name appears in the **BS-BU ID** field and the title bar of the W3000 BS-BU dialog screens. When no system name is entered, **BS-BU Carrier Index** is used to identify the W3000 BS-BU.

3 In the **Admin Status** field, select the administrative status of the W3000 BS-BU from the dropdown list (**Enable**, **Disable** or **Redundant**). If the BS-BU card will be in standby, select **Redundant**.

4 Select IF-MUX# parameters from dropdown lists.

Note

A standby BS-BU must be configured for the same IF-MUX as the normally working BS-BU it will replace.

5 Select connected ATM-NIU or 12 x E1-NIU card numbers for Data and TDM services from the dropdown lists.

6 The *Modulation Change* enables to descend from **QAM16** to **QPSK** modulation in case of bad link performance, and to ascend from **QPSK** to **QAM16** modulation in case of improvement in link performance. Set to **Enable** or **Disable** as required.

7 To modify the *IP Mode*, in the *Settings* area, from the *Configured IP Mode* drop-down list, choose **Basic** for **Layer 3** mode, or **Bridging** for **Layer 2** mode.

8 From the **Redundant BS-BU Slot Number** drop down list, select a stand by W3000 BS-BU. This parameter is not relevant for a standby BS-BU.

9 Click **OK** or **Apply** to save any modifications made to the properties of the W3000 BS-BU.

Moving W3000 BS-BU Slot Positions

BS-BUs, like all other cards, can be moved from one slot to another.

To move a W3000 BS-BU:

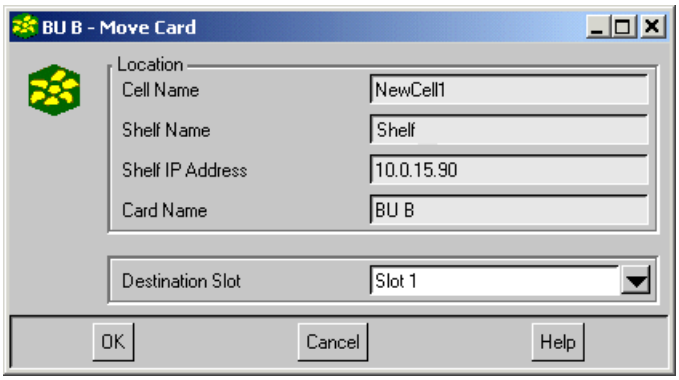
1 One of following ways may be used to move a W3000 BS-BU from one slot to another

◇ In Sector View, select **Chassis Slot** from the *Element* menu and select **Move**.

◇ In Shelf View, select **Chassis Slot** from the *Chassis Element* menu and select **Move**.

The *Move Card* dialog box is displayed:

Figure 4-29: Move BS-BU Dialog Box



2 Select the slot to which you want to move the selected W3000 BS-BU from the dropdown list in the **Destination Slot** field, and click **OK**. The selected W3000 BS-BU is moved to the new slot position.

Note

You can only move those cards, whose **Admin Status** is **Disabled** and **Fault Status** is **No Faults**.

WALKair 3000 Stand-Alone Base Station Basic Unit Management

Creating a Basic Unit

Once a W3000 BS-BU has been defined, its configuration parameters and its registered Terminal Station (TSs) are accessible.

To create a W3000 Stand-Alone BS-BU:

1 For an **IF MUX type W3000 None Stand-Alone BS-BU**:
In Sector View select **W3000 BS-BU/SA** from the *Element* menu, and then select **New** from the submenu.

OR—

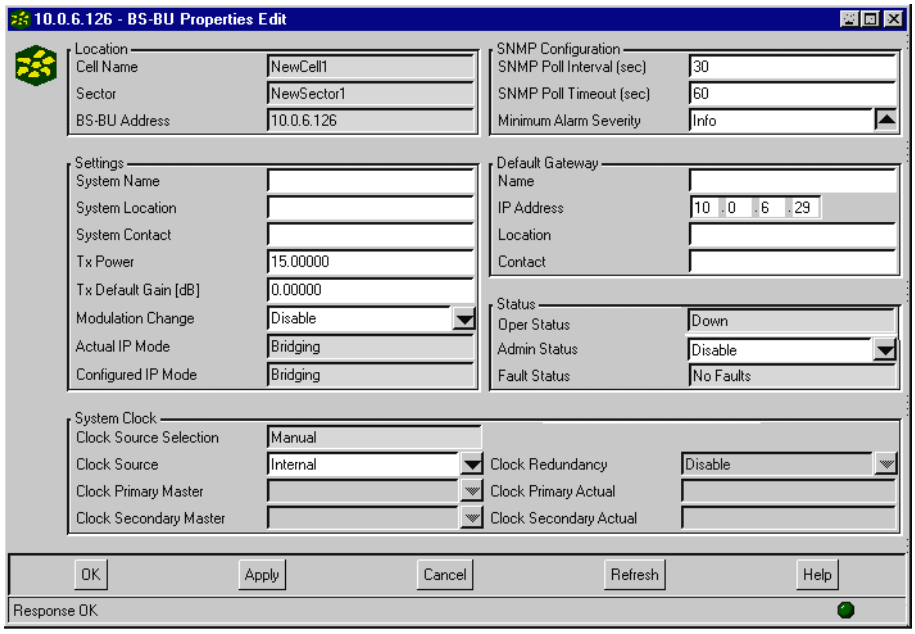
For an **IF MUX type W3000 2 Ports Stand-Alone BS-BU**:
In Sector View, select a free slot, and then select **New** from the *Element* menu.

The new W3000 Stand-Alone BS-BU is created and displayed in the selected slot.

2 Start configuring W3000 BS-BU by selecting **W3000 BS-BU/SA** from the *Element* menu in Sector View, and then select **Edit**.

The *BS-BU Properties Edit* dialog box is displayed:

Figure 4-30: Stand-Alone BS-BU Parameters



3 In the SNMP Configuration area, from the *Minimum Alarm Severity* drop-down list, select the required Alarm Severity (the minimum level of alarms to be displayed). The options are as follows:

- ◇ Info – All alarms displayed
- ◇ Critical – Only Critical alarms displayed
- ◇ Major – Major and Critical alarms displayed
- ◇ Minor – Minor, Major and Critical alarms displayed
- ◇ Warning – Warning, Minor, Major and Critical alarms displayed

4 In the Settings area, enter or accept the **Tx Default Gain** value as follows:

- ◇ For a system with a 2-Port MUX, but does not include WALKair 1000 units, the **Default Gain = -4 (automatically)**.
- ◇ For a system with a 2-Port MUX, and WALKair 1000 units, the **Default Gain = 0 (type in manually)**.
- ◇ For a system with two 2-Port MUXes, and WALKair 1000 units, the **Default Gain = -4 (automatically)**.

5 The Modulation Change enables descent from QAM16 to QPSK modulation in case of bad link performance, and ascent from **QPSK** to **QAM16** modulation in case of improvement in link performance. Set to **Enable** or **Disable** as required.

6 In the Settings area, enter the W3000 BS-BU System Name, Location and Contact. Type in also the Tx Power (modem working point for Tx in dB): up to **21**.

7 In the Default Gateway area, type the name of the default gateway, IP Address, Location and Contact.

8 In the SNMP Configuration area, in the **SNMP Poll Interval (sec)** field, enter how often the NMS polls the Stand-Alone BS-BU (in seconds).

9 In the **SNMP Poll Timeout (sec)** field, enter the timeout period (in seconds). If there is no response from the Stand-Alone BS-BU for this period, its status is considered disconnected.

10 In the System Clock area, in the **Clock Source Selection** field, choose the clock selection mode to be **Manual** from the dropdown list.

11 Select a clock source from the **Clock Source** field dropdown list, as follows:

- ◇ **Telecom**—E1 port
- ◇ **Internal**—via Stand-Alone BS-BU internal clock.

12 Clock Redundancy (available for Telecom clock option):

If Clock Redundancy is not required, proceed to step 15.

OR—

If you selected **Telecom** as the clock source type:
From the **Clock Redundancy** drop-down list, select **Enable** or **Disable** clock redundancy to permit or deny to move to a Secondary Clock Master when the Primary Clock Master fails.

13 Choose the **Clock Primary Master** to be any available E1 port.

14 Choose the **Clock Secondary Master** to be any available E1 port.

15 In the **Admin Status** field, select the administrative status of the W3000 Stand-Alone BS-BU from the dropdown list. Available values are **Enable** and **Disable**.

16 Click the **OK** button to save any modifications made to the W3000 Stand-Alone BS-BU properties.

Note

You can re-configure W3000 Stand-Alone BS-BU parameters using the *BS-BU Properties Edit* Dialog Box.

Displaying W3000 Stand-Alone BS-BU View

To access W3000 Stand-Alone BS-BU View:

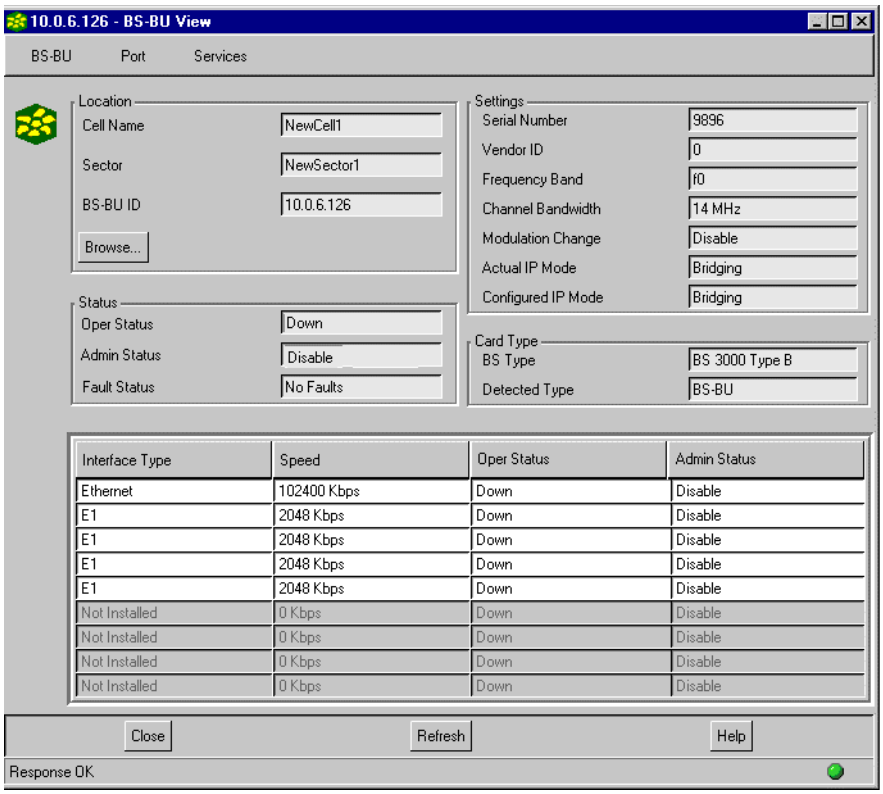
BS-BU View enables you to examine the configuration parameters of the W3000 Stand-Alone BS-BU and access associated Terminal Stations.

Stand-Alone BS-BU View is accessed in one of the following ways:

- In the Navigation Tree, by double-clicking a W3000 Stand-Alone BS-BU node.
- In Sector View, by double-clicking a W3000 Stand-Alone BS-BU.
- In Sector View, by selecting **W000 BS-BU/SA** from the *Element* menu, and then selecting **View**.

The BS-BU View for the selected W3000 BS-BU is displayed:

Figure 4-31: W3000 Stand-Alone BS-BU View Dialog Box



BS-BU View displays the configuration parameters of the selected W3000 Stand-Alone BS-BU. The parameters are read-only. To modify the configuration parameters, see "WALKair 3000 Stand-Alone Base Station Basic Unit Management" on page 4-49.

The following parameters are displayed in BS-BU View:

Location area	
Cell Name	The name of the cell for which this W3000 Stand-Alone BS-BU has been defined.
Sector	The name of the sector for which this W3000 Stand-Alone BS-BU has been defined.
BS-BU ID	The system name if defined for the W3000 Stand-Alone BS-BU or, when no system name is defined, the IP Address of the W3000 Stand-Alone BS-BU is used as BS-BU ID. The system name is defined in the Stand-Alone *BS-BU Properties Edit* dialog box.
Browse Button	Enables you to display configuration information for another W3000 BS-BU in any sector in any cell in the same map.

Status area	
Admin Status	Administrative status of the W3000 BS-BU (**Enable, Disable** or **Redundant**).
Oper Status	Current card status (**Up, Down, Test**).
Fault status	The severity of a BS-BU fault (**No Faults, Minor, Major, Critical**).
Settings area	
Serial Number	The serial number of the W3000 Stand-Alone BS-BU.
Vendor ID	N/A
Frequency Band	RF channel that indicates the frequency used for transmission.
Channel Bandwidth	14 MHz for this release.
Modulation Change	Indicates if Modem Modulation Mode is selected automatically by BS-BU (**Enable**) or is manually defined (**Disable**).
Actual IP Mode	The actual IP Mode is either Basic (Layer 3) or Bridging (Layer 2).
Configured IP Mode	The configured IP Mode is either Basic (Layer 3) or Bridging (Layer 2).
Card Type area	
BS Type	Type of Stand-Alone BS-BU (defined according to interface): BS 3000 Type A—2 x Ethernet Ports BS 3000 Type B—1 x Ethernet + 4 x E1 Ports BS 3000 Type C—1 x Ethernet + 8 x E1 Ports
Detected Type	BS-BU
Port area	
Interface Type	The type of interface.
Speed	The data transfer rate in Kbps.
Port Oper Status	The operational status of the port: **up** or **down**.
Port Admin Status	The administrative status of the port: **Enabled** or **Disabled**.

From Stand-Alone BS-BU View, you can do the following:

- Display configuration information for another W3000 Stand-Alone BS-BU in any sector in any cell in the same map (see "Horizontal Navigation" on page 2-19)
- Modify W3000 BS-BU properties (see "Modifying W3000 Stand-Alone BS-BU Properties" on page 4-56)
- Access the Terminal Stations registered to this W3000 BS-BU (see "Accessing a Terminal Station Basic Unit" on page 4-66)
- Edit the configuration of an onboard Ethernet or E1 port (see below)
- Manage Software Versions and Reset (see below)

Accessing Onboard Ethernet and E1 Port Configuration

Onboard Ethernet port and E1 port configuration parameters may be accessed through *BS-BU Ethernet* or *E1 Properties* dialog boxes. For details, see Telecom Ports Configuration in Chapter 6, "Telecom Port Configuration".

Accessing Software Versions and Reset Management

For a detailed description of Software Versions and Reset management, please see Versions and Reset Management in Chapter 10, "Utilities".

Deleting W3000 Stand-Alone BS-BUs

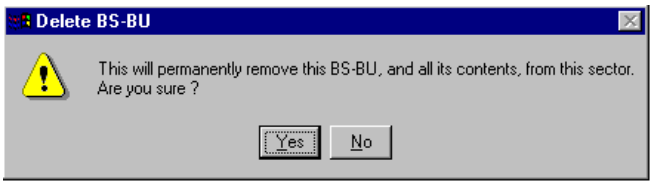
Deleting W3000 Stand-Alone BS-BU from a sector permanently removes the W3000 BS-BU and all its components from the sector.

To delete a W3000 Stand-Alone BS-BU:

1 In Sector View, select **W3000 BS-BU/SA** from the *Element* menu and then select **Delete** from the sub-menu.

The Delete Card confirmation message is displayed:

Figure 4-32: Delete BS-BU Confirmation Message



2 Click **Yes** to delete the W3000 Stand-Alone BS-BU from the sector.

Modifying W3000 Stand-Alone BS-BU Properties

You can modify W3000 Stand-Alone BS-BU properties from Sector View or BS-BU View.

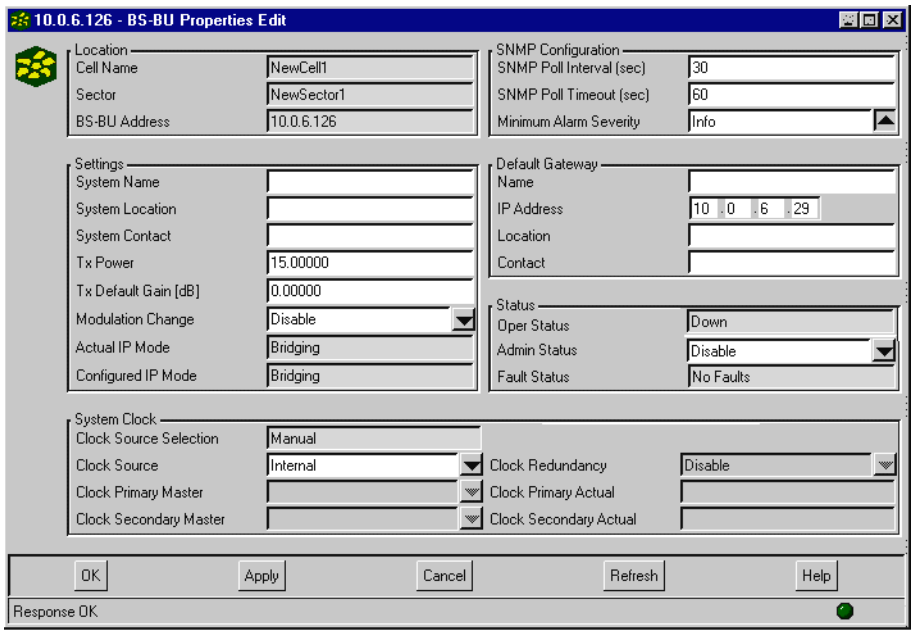
To modify W3000 Stand-Alone BS-BU properties:

1 Open the W3000 BS-BU *Properties Edit* dialog box in one of the following ways:

- ◇ In Sector View, select **W3000 BS-BU/SA** from the *Element* menu and select **Edit**.
- ◇ In BS-BU View, select **Edit BS-BU** from the *BS-BU* menu.

The *BS-BU Properties Edit* dialog box is displayed:

Figure 4-33: BS-BU Properties Edit Dialog Box



Note

The **Cell Name** and **Sector** fields are read-only fields that display the names of the cell and sector for which the W3000 Stand-Alone BS-BU is defined.

2 Modify the W3000 BS-BU Name and Settings, as required (see also .the parameters description list starting on page 4-53).

Note

When you define a System Name for the W3000 BS-BU, that name appears in the **BS-BU ID** field and the title bar of the W3000 BS-BU dialog screens. When no system name is entered, the **IP Address** is used to identify the W3000 BS-BU.

3 In the **Admin Status** field, select the administrative status of the W3000 Stand-Alone BS-BU from the dropdown list (**Enable** or **Disable**).

4 Click on **OK** or **Apply** to save modifications to the properties of the W3000 Stand-Alone BS-BU..

Terminal Station Basic Unit Management

WALKair 1000 Terminal Station Basic Unit Management

Registration is the definition of the Terminal Station Basic Units (TS-BUs) that are connected to the BS-BUs. Once a TS-BU is registered to a BS-BU, you can configure the parameters and services for the TS-BU. TS-BUs are identified by a Customer ID number.

Creating Terminal Station Basic Units

You can register a TS-BU and configure it before it is physically located in the WALKair system. Then, when the air link is established, the TS-BU receives all its configuration parameters from the BS-BU. TS-BUs are defined from the *Registered Terminals* dialog box.

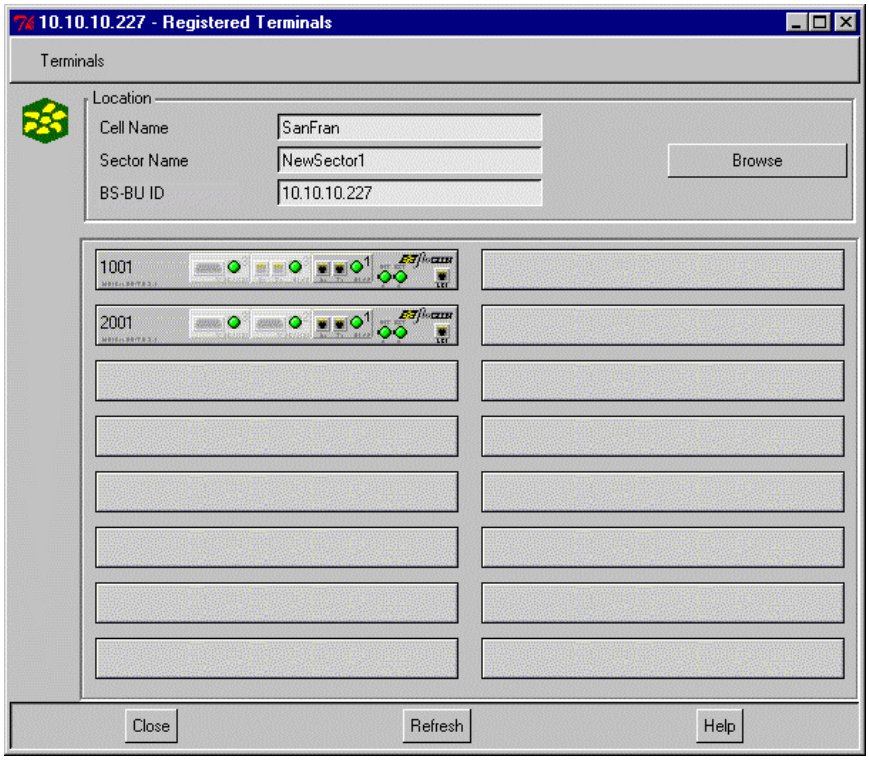
To register a new TS-BU:

1 Open the *Registered Terminals* dialog box in one of the following ways:

- ◇ In Base Station BU View, select **Registered Terminals** from the *BS-BU* menu.
- ◇ In the Main window, select **Terminals** from the *Configuration* menu, or click **View Terminals** in the toolbar. Browse to the required BS-BU in the *Browse BS-BU* dialog box, and click **OK**.

The *Registered Terminals* dialog box is displayed:

Figure 4-34: Registered Terminals Dialog Box



The *Registered Terminals* dialog box displays all Terminal Stations registered with the current BS-BU.

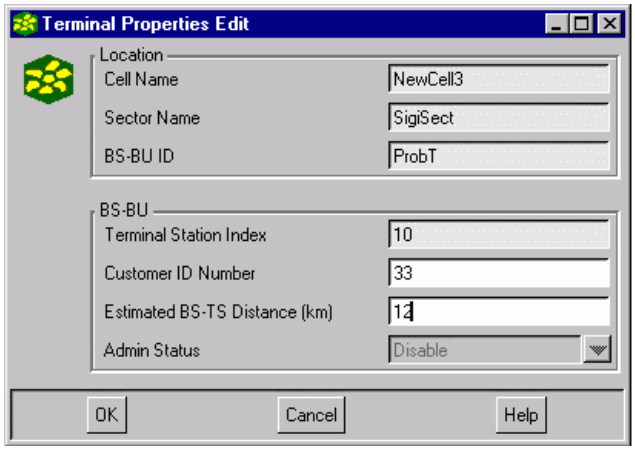
Note

The **Cell Name** and **Sector Name** fields are read-only fields that display the names of the cell and sector for which the BS-BU is defined. The **BS-BU ID** field is also read-only and displays the system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is defined in the *BS-BU Properties Edit* dialog box.

You can display the Terminal Stations registered to another BS-BU in any sector in any cell in the same map by clicking **Browse** and selecting another BS-BU from the displayed *Browse BS-BU* dialog box. For further information, see "Horizontal Navigation" on page 2-19.

2 Select an empty slot, and select **New** from the *Terminals* menu. The *Terminal Properties Edit* dialog box is displayed:

Figure 4-35: Terminal Properties Edit Dialog Box



Note

The **Cell Name** and **Sector Name** fields are read-only fields that display the names of the cell and sector for which the BS-BU is defined. The **BS-BU ID** field is also read-only and displays the system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is defined in the *BS-BU Properties Edit* dialog box.

A system reference number is automatically assigned to the TS-BU and displayed in the **Terminal Station Index** field.

3 Enter an identification number for the TS--BU in the **Customer ID Number** field.

4 In the **Estimated BS-TS Distance (km)** field, enter the approximate distance (in km) between the BS-BU and TS-BU. Enter **0** to indicate a distance of less than 10 kilometers.

5 In the **Admin Status** field, select the administrative status of the TS-BU from the dropdown list.

6 Click **OK**. The new TS-BU is registered to the BS-BU and is displayed in the selected slot in the *Registered Terminals* dialog box.

Displaying Terminal Station BU View

Terminal Station BU View enables you to view and modify the configuration of a TS-BU.

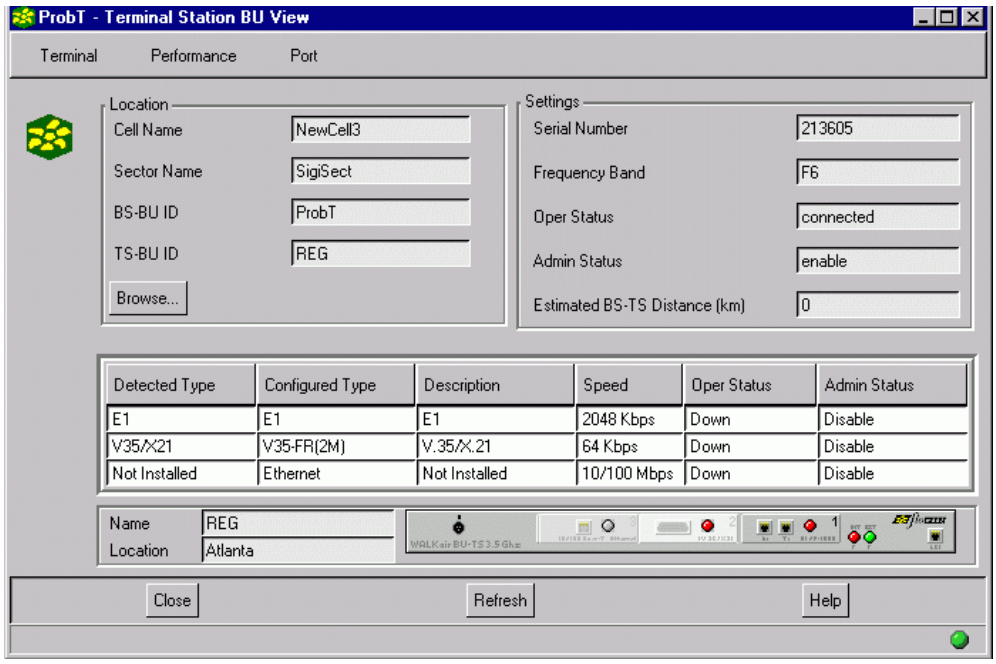
To access Terminal Station BU View:

Terminal Station BU View is accessed in one of the following ways:

- In Navigation Tree, by double-clicking a TS-BU node.
- In the *Registered Terminals* dialog box, by double-clicking a TS-BU.
- In the *Registered Terminals* dialog box, by selecting a TS-BU, and selecting **View** from the *Terminals* menu.
- In the Main window, by selecting **Go to Terminal** from the *Configuration* menu, or by clicking **View TS-BU** in the toolbar. Browse to the required TS-BU in the *Browse TS* dialog box, and click **OK**.

Terminal Station BU View for the selected TS-BU is displayed:

Figure 4-36: Terminal Station BU View



Note

The LED display at the bottom of Terminal Station BU View provides a graphical representation of the TS-BU front panel.

Terminal Station BU View displays the configuration parameters of the selected TS-BU. The parameters are read-only. To modify the configuration parameters, see "Modifying TS-BU Properties" on page 4-65.

The following parameters are displayed in Terminal Station BU View:

Location area	
Cell Name	The name of the cell for which this TS-BU has been defined.
Sector Name	The name of the sector for which this TS-BU has been defined.
BS-BU ID	The system name if defined for the BS--BU to which this TS--BU is registered or, when no system name is defined, the IP address of the BS-BU. The system name is defined in the *BS-BU Properties Edit* dialog box.
TS-BU ID	The system name if defined for the TS--BU or, when no system name is defined, the customer ID of the TS-BU. The system name is defined in the *Terminal Station BU Properties Edit* dialog box.

Browse Button	Enables you to display configuration information in the open Terminal Station BU View for another TS-BU in any sector in any cell in the same map.
Settings area	
Serial Number	The serial number of the TS-BU.
Frequency Band	The frequency at which the TS-BU is operating.
Oper Status	The operational status of the TS-BU.
Admin Status	The administrative status of the TS-BU: **Enable** enables the TS--BU to establish a radio link with the BS-BU. **Disable** disables the radio link established between the TS-BU and BS-BU.
Estimated BS-TS Distance (km)	The approximate distance (in km) between the BS--BU and TS--BU. **0** indicates a distance of less than 10 kilometers.
Ports area	A list of telecom ports on the TS-BU.
Detected Type	The type of telecom interface card installed/detected: E1, E1-75/120W, V35X.21, E1-FR V35/X.21-FR (2M), V.35/X.21-FR (4M), Ethernet, QBRI or POTS.
Configured Type	The type of telecom interface card configured: **E1, E1-75/120W, V35, X.21, E1-FR, V35-FR (2M), X21 FR (2M), V35-FR (4M), X21-FR (4M), Ethernet, QBRI** or **POTS**.
Description	A full description of the interface.
Speed	The data transfer rate in Kbps.
Oper Status	The operational status of the telecom interfaces: **up** or **down**.
Admin Status	The administrative status of the telecom interfaces: **up** or **down**.
Name	The name of the TS-BU.
Location	The location of the TS-BU.

From Terminal Station BU View, you can do the following:

- Display configuration information for another TS-BU in any sector in any cell in the same map (see "Horizontal Navigation" on page 2-19)
- Edit TS-BU properties (see "Modifying TS-BU Properties" on page 4-65)

- Configure RFU and antenna parameters (see "Configuring the RFU and Antenna" on page 4-82)
- View resident software versions on the TS-BU (see See Chapter 10, "Utilities")
- Configure and manage V5 interfaces, subscribers and quality of service (see Chapter 7, "System Services Configuration")
- Display air performance statistics (see Chapter 8, "Performance Monitoring")
- Edit the configuration of a port and change the configured type of port (see Chapter 6, "Telecom Port Configuration")

Editing and Deleting TS-BUs

TS-BUs can be deleted from the *Registered Terminals* dialog box so that they are no longer registered to a BS-BU.

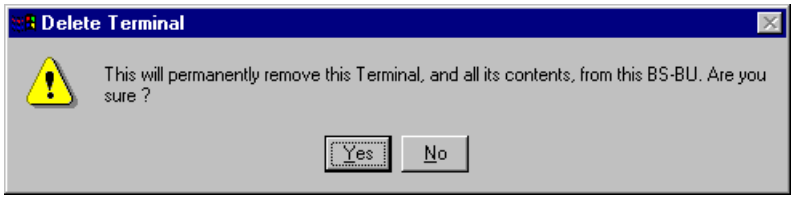
Deleting TS-BUs

Deleting a Terminal Station permanently removes the TS-BU and all its components from the BS-BU.

To delete a TS-BU:

1 In the *Registered Terminals* dialog box, select a TS-BU slot, and select **Delete** from the *Terminals* menu. The Delete Terminal confirmation message is displayed:

Figure 4-37: Delete Terminal Confirmation Message



2 Click **Yes** to delete the TS-BU.

Modifying TS-BU Properties

You can modify the properties of a TS-BU from the *Registered Terminals* dialog box and from Terminal Station BU View.

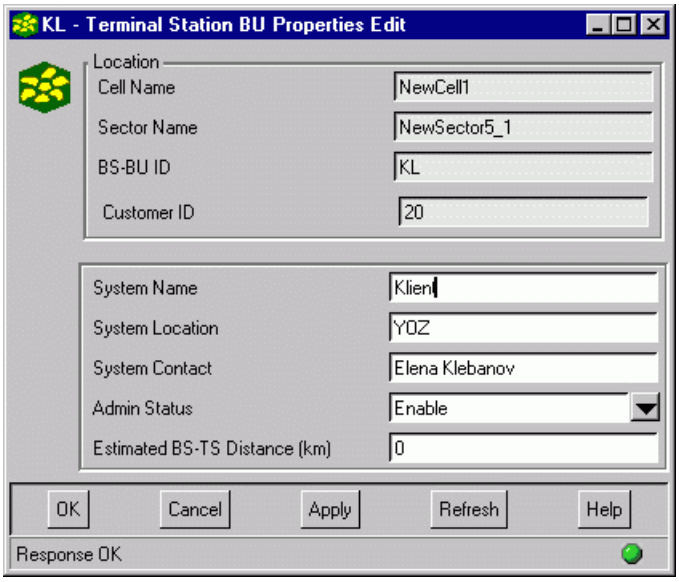
To modify TS-BU properties:

1 Open the *Terminal Station BU Properties Edit* dialog box in one of the following ways:

- ◇ In the *Registered Terminals* dialog box, select a TS-BU slot, and select **Edit** from the *Terminals* menu.
- ◇ In Terminal Station BU View, select **Edit Terminal** from the *Terminal* menu.

The *Terminal Station BU Properties Edit* dialog box is displayed:

Figure 4-38: Terminal Station BU Properties Edit Dialog Box



Note

The **Cell Name**, **Sector Name** and **Customer ID** fields are read-only fields that display the names of the cell and sector for which the BS-BU is defined and the reference ID of the TS-BU. The **BS-BU ID** field is also read-only and displays the system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name for the BS-BU is defined in the *BS--BU Properties Edit* dialog box.

2 Modify the text fields identifying the name and location of the system and a contact person.

Note

When you define a system name for the TS-BU, that name appears in the **TS--BU ID** field and the title bar of the TS-BU dialog boxes. When no system name is entered, the customer ID of the TS--BU appears in the **TS--BU ID** field and in the title bar of the TS-BU dialog boxes.

3 In the **Admin Status** field, select the administrative status of the TS-BU from the dropdown list.

4 In the **Estimated BS-TS Distance (km)** field, enter the approximate distance (in km) between the BS-BU and TS-BU. Enter **0** to indicate a distance of less than 10 kilometers.

5 Click **OK** to save any modifications made to the properties of the TS-BU.

WALKair 3000 Terminal Station Basic Unit Management

This section covers procedures for both **WALKair 3000 Shelf** and **WALKair 3000 Stand-Alone BS-BU** units.

Accessing a Terminal Station Basic Unit

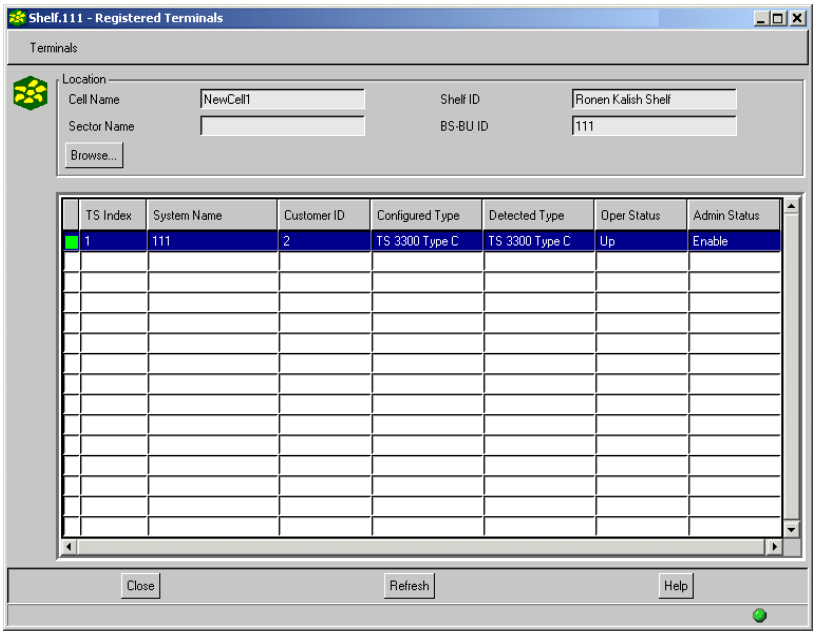
Terminal Stations registered to a W3000 BS-BU may be accessed through the *Registered Terminals* dialog box.

To open the Registered Terminals dialog box:

- In the *Map* window, select **Terminals** from the *Configuration* menu, then select a W3000 BS-BU from the opened tree.
- In the BS-BU View screen, select **Registered Terminals** from the *BS-BU* menu.

The *Registered Terminals* dialog box is displayed:

Figure 4-39: W3000 Registered Terminals Dialog



The following parameters are displayed in the *Registered Terminals* dialog box:

Location area	
Cell Name	The name of the cell for which this BS-BU has been defined.
Sector Name	The name of the sector for which this BS-BU has been defined.
Shelf ID (Shelf Name)	**Shelf**: The name of the shelf for which this BS-BU has been defined. If the Shelf name is not defined, the Shelf's IP Address is used as the Shelf ID. **Stand-Alone**: Name of the Stand-Alone BS-BU.
BS-BU ID	The BS-BU system name if defined or, when no system name is defined, the Carrier Index of the BS-BU is used as the BS-BU ID.
Browse Button	Enables you to display the Registered Terminals view for any other BS-BU in any sector in any cell in the same map.
Terminals table	
Fault status	A colored square representing the fault status: • *green* represents **No Fault** status • *yellow* represents a **Minor Fault** • *red* represents a **Major Fault**

Terminal Station Index	TS-BU reference number automatically assigned to TS.
System Name	TS-BU Name assigned by the user.
Customer ID	A unique ID number per BS-BU. The Operator defines Customer IDs.
Configured Type	One of the available options is displayed: • Not Installed (default value) • TS Type A—TS unit (2 x Ethernet only) • TS Type B—TS unit (2 x Ethernet + 4 x E1 • TS Type C—TS unit (2 x Ethernet + 8 x E1) • TS Type D—TS unit (4 x Ethernet + 2 x E1)
Detected Type	One of the available options is displayed, according to your system: • Not Installed (default value) • TS Type A—TS unit (2 x Ethernet only) • TS Type B—TS unit (2 x Ethernet + 4 x E1 • TS Type C—TS unit (2 x Ethernet + 8 x E1) • TS Type D—TS unit (4 x Ethernet + 2 x E1)
Oper Status	The operational status of the TS.
Admin Status	The administrative status of the TS: • **Enable** • **Disable**

Note

You can sort **TSs**, **TS Index**, **TS ID**, **Customer ID**, **Oper Status** and **Admin Status** by clicking on the corresponding column header.

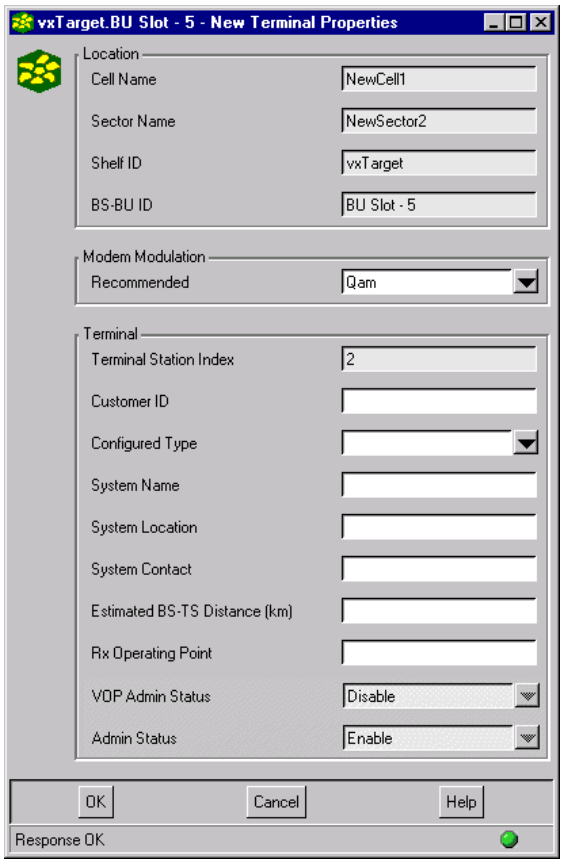
Creating Terminal Stations

Once a TS has been defined, its configuration parameters are accessible.

To create a TS:

1 From the *Registered Terminals* dialog box, select **New** from the *Terminal* menu. The *New Terminal* dialog box is displayed:

Figure 4-40: New Terminal Dialog Box



The following parameters are displayed in the *New Terminal Properties* dialog box:

Location area	
Cell Name	The name of the cell for which this TS has been defined.
Sector Name	The name of the sector for which this TS has been defined.
Shelf ID	**Shelf only**: The name of the shelf for which this TS has been defined. If the Shelf name is not defined, the Shelf's IP Address is used as the Shelf ID.
Shelf Name	**Stand-Alone only**: Name of the Stand-Alone BS-BU.
BS-BU ID	**Shelf only**: The BS-BU system name, if defined, or, when no system name is defined, the IP Address of the BS-BU is used as the BS-BU ID.

Modem Modulation Area	
Recommended Modem Modulation	Two available Modem Modulation values for Uplink and Downlink: • Qam • Qpsk
Terminal Area	
Terminal Station Index	Sequential number set by the program for the Terminal Station. Cannot be changed by the user.
Customer ID	**Important!** The customer ID can only be entered once, when a new TS is created. It cannot be edited later.
Configured Type	One of the available options is displayed, according to your system: • Not Installed (default value) • TS Type A—TS unit (2 x Ethernet only) • TS Type B—TS unit (2 x Ethernet + 4 x E1 • TS Type C—TS unit (2 x Ethernet + 8 x E1) • TS Type D—TS unit (4 x Ethernet + 2 x E1)
Settings area	
System Name	The System Name is used as the TS ID. If the system name is not defined, WALKnet uses the Customer ID as the TS ID.
System Location	Optional.
System Contact	Optional.
Estimated BS-TS distance (km)	This field is mandatory: The distance in kilometers between the Base Station and the Terminal Station, as estimated by the Operator. Enter an integer between **0** and **15000** (0-15 Km).
Rx Operating Point	This field is mandatory: Enter the target Rx power per carrier, in dBm, at the antenna in the Rx Operating Point field. The default value is -80 dBm. Use the following format: –80.00000.
VOP Admin Status	VOP (Variable Operating Point). Select either **Enable** or **Disable**.
Admin Status	The administrative status of the TS. Select either **Enable** or **Disable**.

2 Click the **OK** button.

A new TS is created. The new TS properties may be viewed in TS View, and edited in the *TS Edit Properties* dialog box.

Displaying TS View

TS View enables you to examine the configuration parameters of the TS, and access Air Performance Monitoring.

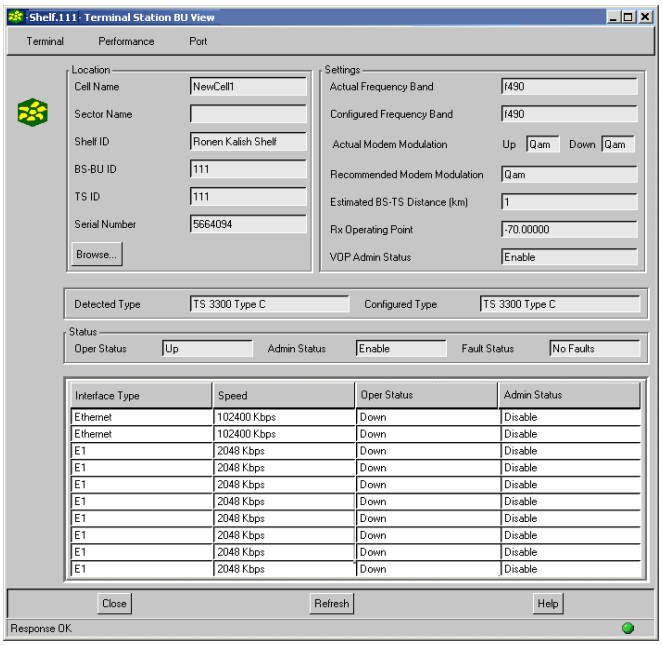
To open TS View:

TS View is opened in one of following ways:

- In the Network Navigation Tree, by double-clicking a W3000 TS node.
- By double-clicking a table line in the *Registered Terminals* dialog box.
- In the *Registered Terminals* dialog box, by selecting a line in the terminals table and selecting **View** from the *Terminal* menu.
- From the *Map* window, by selecting **Goto terminal** from the *Configuration* menu, then browsing to the required TS.

The TS View displayed depends on the terminal interfaces.

Figure 4-41: TS View



TS View displays the configuration parameters of the selected TS and TS type. In Figure 4-41, two examples are shown: on the left, TS view for a TS 3300 Type C includes 2 x Ethernet and 8 x E1 interfaces, and on the right, TS View for a TS 3000 type A includes two Ethernet interfaces. The parameters are read-only. In order to modify the configuration parameters, see "Modifying TS-BU Properties" on page 4-65

The following parameters are displayed in TS View:

Location area	
Cell Name	The name of the cell for which this TS has been defined.
Sector Name	The name of the sector for which this TS has been defined.
Shelf ID	**Shelf only**: The name of the shelf for which this TS has been defined. If the Shelf name is not defined, the Shelf's IP Address is used as the Shelf ID.
Shelf Name	**Stand-Alone only**: Name of the Stand-Alone unit.
BS-BU ID	The BS-BU system name, if defined, or, when no system name is defined for a shelf, the slot number of the BS-BU is used as the BS-BU ID.
TS ID	The TS system name, if defined, or, when no system name is defined, the customer id ID of the TS is used as the TS ID. The system name is defined in the *TS Properties Edit* dialog box.
Serial number	Device identifier given during production.
Browse Button	Enables you to display configuration information for another TS in any sector in any cell in the same map.
Settings area	
Actual Frequency Band	Current RF channel that is indicates the frequency currently used for transmission.
Configured Frequency Band	The frequency currently selected for transmission. This RF channel will becomes active after the next reset. At reset, the Active RF channel is set to Configured.
Actual Modem Modulation	The actual Modem Modulation for Uplink and Downlink. Possible values: • Qam • Qpsk
Recommended Modem Modulation	The recommended Modem Modulation.

Estimated BS-TS distance (km)	The distance in kilometers between the Base Station and the Terminal Station, as estimated by the Operator.
Rx Operating Point	The target Rx power per carrier, in dBm, at the antenna. The default value is -80 dBm. Use the following format: –80.00000.
VOP Admin Status	VOP (Variable Operating Point): **Enable** or **Disable**.
Detected and Configured area	
Detected Type	One of the available options is displayed: • Not Installed (default value) • TS Type A—TS unit (2 x Ethernet only) • TS Type B—TS unit (2 x Ethernet + 4 x E1 • TS Type C—TS unit (2 x Ethernet + 8 x E1) • TS Type D—TS unit (4 x Ethernet + 2 x E1)
Configured Type	One of the available options is displayed, according to your system: • Not Installed (default value) • TS Type A—TS unit (2 x Ethernet only) • TS Type B—TS unit (2 x Ethernet + 4 x E1 • TS Type C—TS unit (2 x Ethernet + 8 x E1) • TS Type D—TS unit (4 x Ethernet + 2 x E1)
Status area	
Oper Status	Current card status (**Up**, **Down**, **Test**).
Admin Status	Administrative status requested by NMS: **Enable** / **Disable**
Fault status	The severity of the TS fault. This is summarized information regarding the card's status in the slot: **No Faults** / **Minor** / **Major** / **Critical**
Port area	
Interface Type	Select either **Ethernet** or **E1**.
Speed	The data transfer rate in Kbps.
Oper Status	The operational status of the port: **up** or **down**.
Admin Status	The administrative status of the port: **Enable** / **Disable**

From TS View, you can do the following:

- Display configuration information for another TS in any sector in any cell in the same map (see "Horizontal Navigation" on page 2-19)

- Edit TS properties (see "Modifying TS-BU Properties" on page 4-65)
- Access the RFU and Antenna properties.
- Edit the configuration of onboard E1 and Ethernet ports.
- Access Air Performance Monitoring. See Chapter 8, "Performance Monitoring", for details.
- Manage software versions and reset management. See Versions and Reset Management in Chapter 10, "Utilities" for details.

Deleting and Editing TSs

TSs can be deleted from a BS-BU, or their properties can be modified.

Deleting TSs

Deleting TSs from a sector permanently removes the TS and all its components from the BS-BU.

To delete a TS:

In the *Registered Terminals* dialog box, select a line in the terminals table and select **Delete** from the *Terminal* menu.

Modifying TS Properties

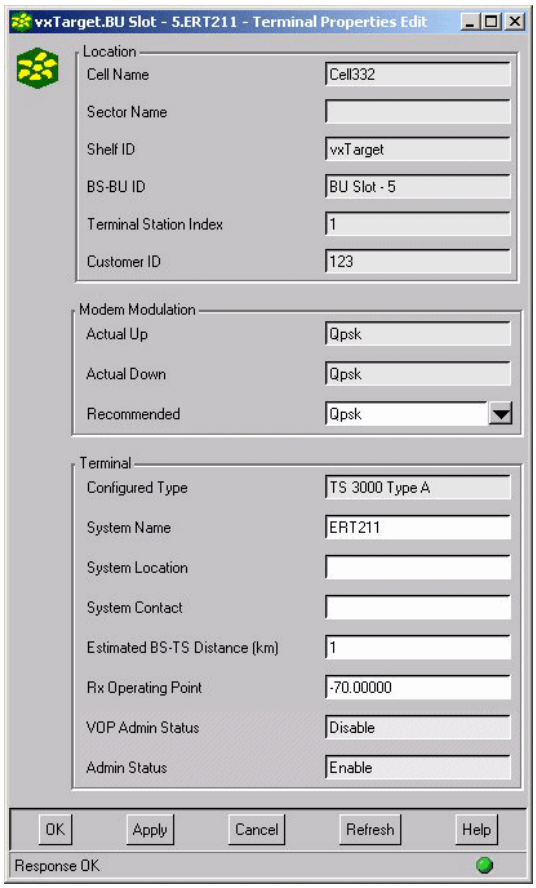
You can modify the properties of the TS from the *Registered Terminals* dialog box or TS View.

To modify TS properties:

- In the *Registered Terminals* dialog box, select a line in the terminals table and select **Edit** from the *Terminal* menu.
- In TS View, select **Edit** from the *Terminal* menu.

The *TS Properties Edit* dialog box is displayed:

Figure 4-42: TS Properties Edit Dialog Box



The following parameters are displayed in the *TS Properties Edit* dialog box:

Location area	
Cell Name	The name of the cell for which this TS has been defined.
Sector Name	The name of the sector for which this TS has been defined.
Shelf ID	**Shelf only**: The name of the shelf for which this TS has been defined. If the Shelf name is not defined, the Shelf's IP Address is used as the Shelf ID.
Shelf Name	**Stand-Alone only**: Name of the Stand-Alone unit.
BS-BU ID	**Shelf:** The BS-BU system name, if defined, or, when no system name is defined, the slot number of the BS-BU is used as the BS-BU ID. **Stand-Alone:** The Stand-Alone BS-BU system name, when no system name is defined, the IP Address of the BS-BU.

Terminal Station Index	Reference number automatically assigned to the TS.
Customer ID	A unique ID number per BS-BU. TS ID numbers are defined by the Operator. Read-only.
Modem modulation area	
Actual Up	The actual Modem Modulation for Uplink.
Actual Down	The actual Modem Modulation for Downlink.
Recommended	The recommended Modem Modulation. Possible values: • Qam • Qpsk
Terminal Area	
System Name	The name of the TS.
System Location	The location of the TS.
System Contact	TS Contact.
Estimated BU-TS distance (km)	The distance in kilometers between the Base Station and the Terminal Station, as estimated by the Operator.
Admin Status	TS administrative status requested by the NMS: **Enable** / **Disable**

Note

When you define a system name for the TS, that name appears in the **TS ID** field and the title bar of the *TS* dialog boxes. When no system name is entered, the customer ID is used to identify the TS.

Frequency Planning

Frequency planning enables you to assign frequencies for WALKair 1000 BS-BUs and WALKair 3000 BS-BUs in a sector. Frequencies are assigned from the *Sector Frequency Planning* dialog box.

WALKair 1000 Frequency Planning

This section describes frequency planning for the sectors containing WALKair 1000 BS-BUs only.

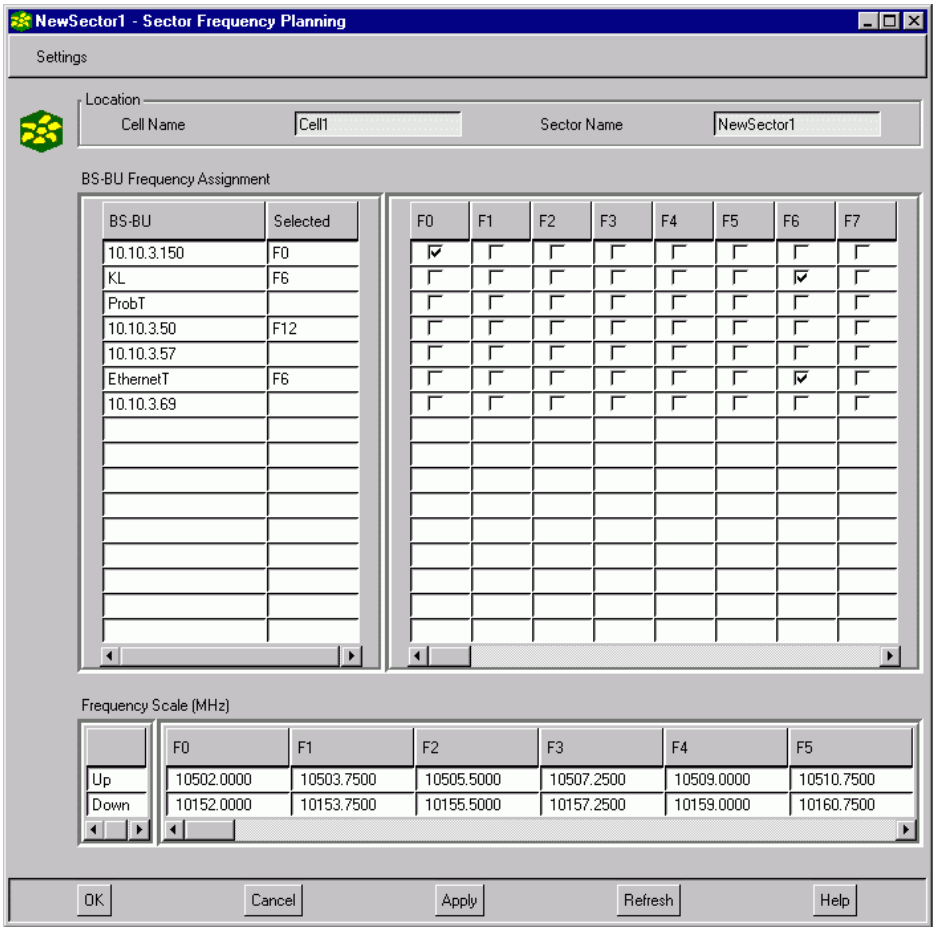
To assign BS-BU frequencies:

1 Open the *Sector Frequency Planning* dialog box in one of the following ways:

- ◇ In Sector View, select **Frequencies** from the *Sector* menu.
- ◇ In Cell View, select a sector in the **List of sectors** area, and select **Frequencies** from the *Cell* menu.
- ◇ In the Main window, select **Frequencies** from the *Configuration* menu, or click **Sector Frequency** in the toolbar. Browse to the required sector in the *Browse Sector* dialog box, and click **OK**.

The *Sector Frequency Planning* dialog box is displayed:

Figure 4-43: Sector Frequency Planning Dialog Box for "Pure" WALKair 1000 Sectors



The **Location** area displays the name of the sector for which the frequency assignment is performed, and the name of the cell to which the sector belongs.

The **BS-BU Frequency Assignment** area provides a list of the BS-BUs in the sector and the frequency channels assigned to them. The **Selected** field displays the frequency currently operating on the BS-BU.

The **Frequency Scale** area displays the specific Uplink and Downlink frequencies in MHz associated with each frequency channel.

2 To change a frequency assignment for an operational BS-BU, select a checkbox below the number of the required frequency channel.

Note

You cannot assign a frequency to a non-operational BS-BU. The checkboxes below the numbers are disabled when the BS-BU is not operational.

3 Click **Apply**, and assign frequencies to other BS-BUs, if required.

Note

The selected frequency does not appear in the **Selected** field until you disable the administrative status of the BS-BU and then enable it again. (See "Modifying BS–BU Properties" on page 4-35)

4 Click **OK** when you have completed the sector frequency assignment. for the sector

WALKair 3000 Frequency Planning

This section describes frequency planning for the sectors containing WALKair 1000 and WALKair 3000 Shelf and Stand-Alone BS-BUs.

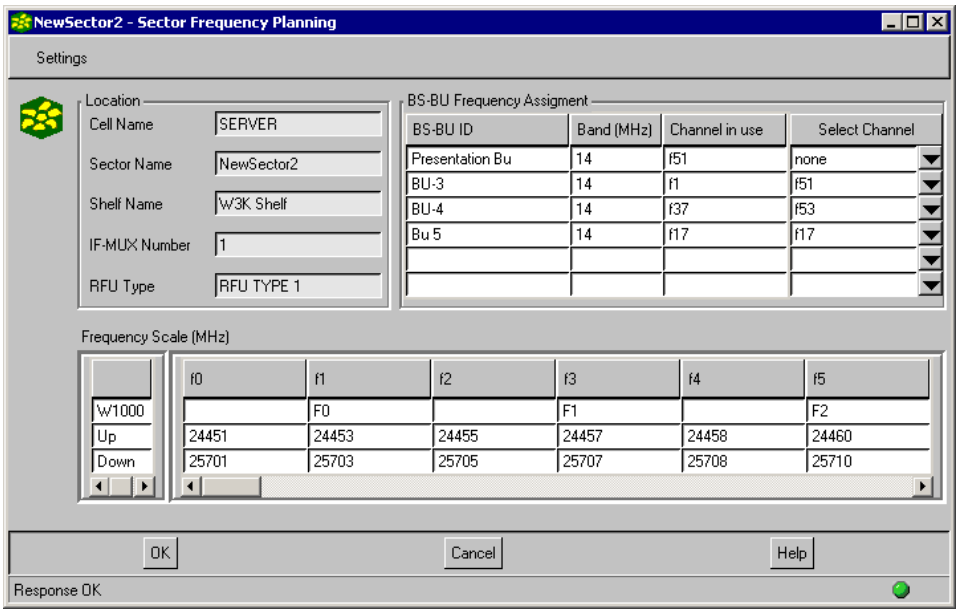
To assign WALKair 1000 and WALKair 3000 BS-BU frequencies:

1 Open the *Sector Frequency Planning* dialog box as follows:

- ◇ In Sector View, select **Frequencies** from the *Sector* menu.
- ◇ In the Main window, select **Frequencies** from the *Configuration* menu, or click **Sector Frequency** in the toolbar. Browse to the required sector in the *Browse Sector* dialog box, and click **OK**.

The *Sector Frequency Planning* Dialog box is displayed:

Figure 4-44: Sector Frequency Planning for the W3000 6 ports IF-MUX sector (example)



The **Location** area displays the name of the sector for which frequency assignment is being performed, the name of the cell to which the sector belongs, and the type of active RFU.TBD

Note

The Shelf Name and IF-MUX Number defined for this sector are displayed only for a W3000 Shelf.

The **BS-BU Frequency Assignment** area provides a list of the WALKair 1000 BS-BUs and WALKair 3000 BS-BUs in the sector, and the frequency channels assigned to them. The **Channel in use** field displays the frequency currently operating on the BS-BU. The **Select channel** field is used to select a new frequency index/RF channel number that becomes active after the next BS-BU reset of the BS-BU.

The **Frequency Scale** area displays the specific Uplink and Downlink frequencies in MHz associated with each frequency channel. The Frequency scale contains two scales. The Frequency scale marked with capital Fs is used to display WALKair 1000 frequencies. The Frequency scale marked with lowercase Fs is for WALKair 3000 frequencies.

2 To change a frequency assignment for an operational BS-BU, select a new frequency index/RF channel number in the **Select channel** field.

3 Click **OK** when you have completed the frequency assignment for the sector.

Configuring the RFU and Antenna

The RFU and antenna parameters specify details about the antenna, RFU and cables for each BS-BU and TS-BU.

WALKair 1000 RFU and Antenna Configuration from Sector View

All BS-BUs in a sector are connected to a single RFU and antenna and most of their RFU and antenna parameters must therefore be the same. Thus, you configure the RFU and antenna parameters for the sector, save them to the WALKnet database and then broadcast them to all or selected BS-BUs in the sector.

You can view the status of the communication with all the BS-BUs in a sector in order to see whether the broadcast was successful.

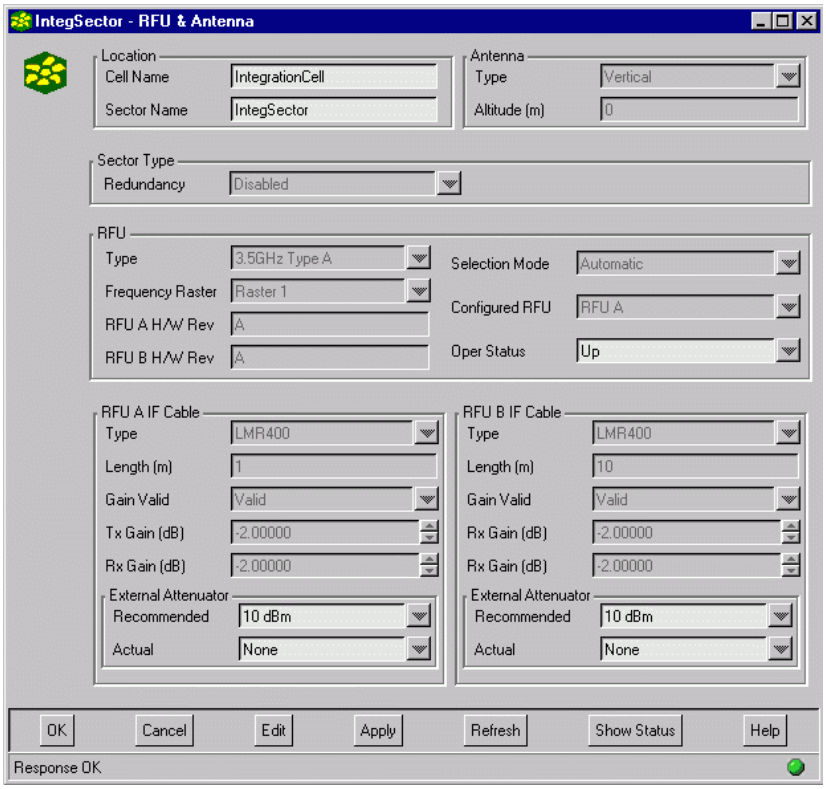
Once you have broadcast the RFU and antenna parameters to a BS-BU in a sector, you can view the RFU and antenna parameters on the individual BS-BU and configure the current and default modem working point parameters, which are specific for each BS-BU.

The RFU and antenna parameters are configured for each individual TS-BU.

To configure WALKair 1000 RFU and antenna parameters:

1 In Sector View, select **RFU and Antenna** from the *Sector* menu. The *RFU & Antenna* dialog box is displayed:

Figure 4-45: Sector RFU and Antenna Dialog Box for WALKair 1000 sector.



2 Click **Edit** to modify the parameters, as required. The following are RFU and antenna parameters:

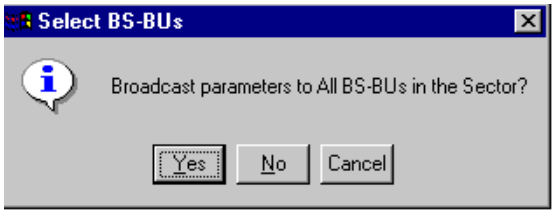
Location area (read-only)	
Cell Name	The name of the cell for which the selected BS-BU has been defined.
Sector Name	The name of the sector for which the selected BS-BU has been defined.
Antenna area	
Type	The only antenna type is vertical.
Altitude (m)	The elevation above sea level in meters.
Sector Type area	
Redundancy	Whether redundancy is enabled or not: **Disabled** / **Enabled**
RFU area	
Type	The RFU head type.

Frequency Raster	The frequency raster type: **Raster 1** / **Raster 2**.
RFU A H/W Rev	The RFU A head type hardware revision.
RFU B H/W Rev	The RFU B head type hardware revision. This field is only enabled when redundancy is enabled.
Selection Mode	The selection mode: **Automatic** / **Manual**
Configured RFU	The active RFU: **A** / **B**
Oper Status	The operating status: **Up** / **Down**
RFU A and B IF Cable areas (The parameters in the RFU B IF Cable area parameters are only enabled when redundancy is enabled.)	
Type	The cable type: **Other** / **LMR400** / **CF14CU2U500hCm**
Length (m)	The length of cable in meters.
Gain Valid	The validity of the Tx and Rx Gain: **Valid** / **Not Valid**. When **Not Valid** is selected, the system default Gain is used.
Tx Gain (dB)	The current Tx Gain in dB.
Rx Gain (dB)	The current Rx Gain in dB.
External Attenuator areas (These fields are read-only)	
Recommended	The recommended external attenuator.
Actual	The actual external attenuator.

3 Click **Apply** to save any modifications made to the RFU and antenna parameters to the WALKnet database.

The *Broadcast Parameters* dialog box is displayed:

Figure 4-46: Broadcast Parameters Dialog Box



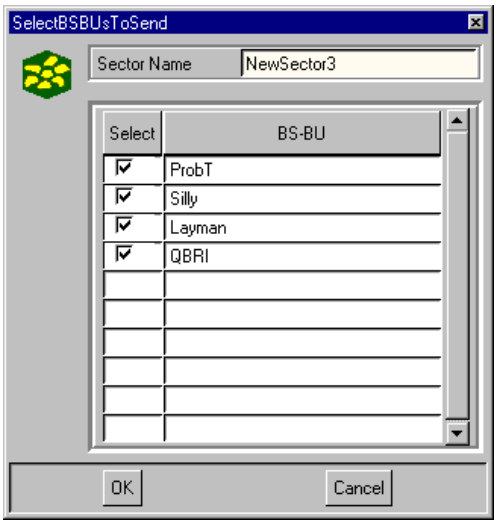
For broadcast of parameters to all BS-BUs in the sector, click the **Yes** button, and proceed to step **6**.

OR—

For broadcast of parameters to only selected BS-BUs, click the **No** button, and proceed to the next step.

4 The *Select BS-BUs To Send* dialog box is displayed:

Figure 4-47: Select BS-BUs To Send Dialog Box



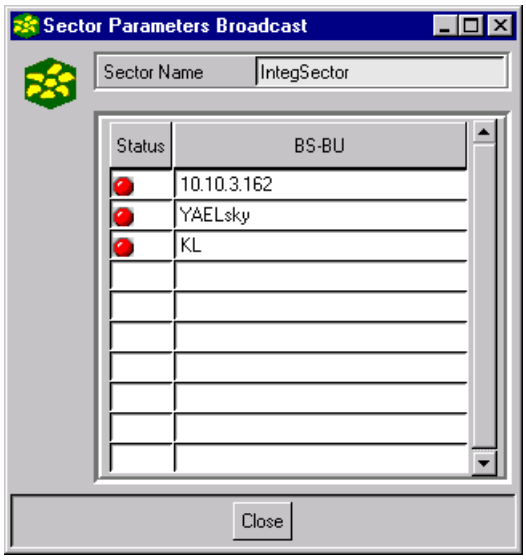
5 Select the BS-BUs in the sector to which you want to broadcast the RFU and antenna parameters and click **OK**. The RFU and antenna parameters are broadcast to the selected BS-BUs.

Note

The BS-BUs that were marked as being offline during a background polling are grayed in the list. You cannot select them for broadcast.

6 To view the status of the broadcast BS-BUs, click **Show Status**. The *Sector Parameters Broadcast* dialog box is displayed:

Figure 4-48: Sector Parameters Broadcast Dialog Box



Note

The BS-BUs that were marked as being offline during a background polling are grayed in the list. You cannot select them for broadcast.

The color of the status LED indicates the status of the communication with a BS-BU, as follows:

Green—Communication OK

Red—No communication

If the RFU and antenna parameters have been successfully set in the BS-BU, the name/IP address of the BS-BU is colored green. If the parameters were not successfully set, the name/IP address of the BS-BU is colored red.

WALKair 3000 RFU and Antenna Configuration from Sector View

To configure RFU and antenna parameters (WALKair 3000):

1 In Sector View, select **RFU and Antenna** from the *Sector* menu. The *RFU & Antenna* dialog box is displayed: The figure below shows the dialog box for a Shelf; the second figure below shows the dialog box for a Stand-Alone BS-BU.

Figure 4-49: Sector RFU and Antenna Dialog Box for sector served by W3000 Shelf

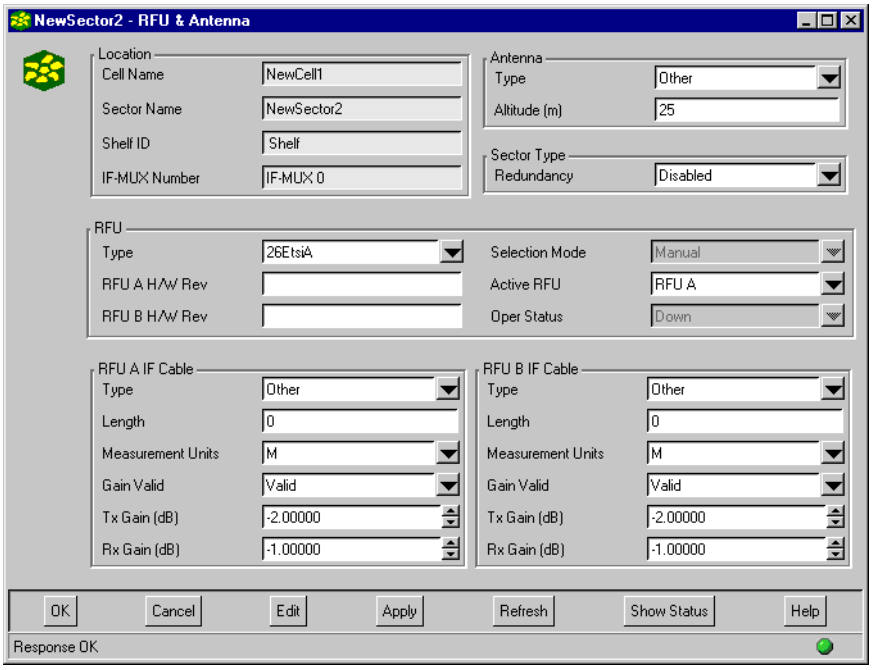
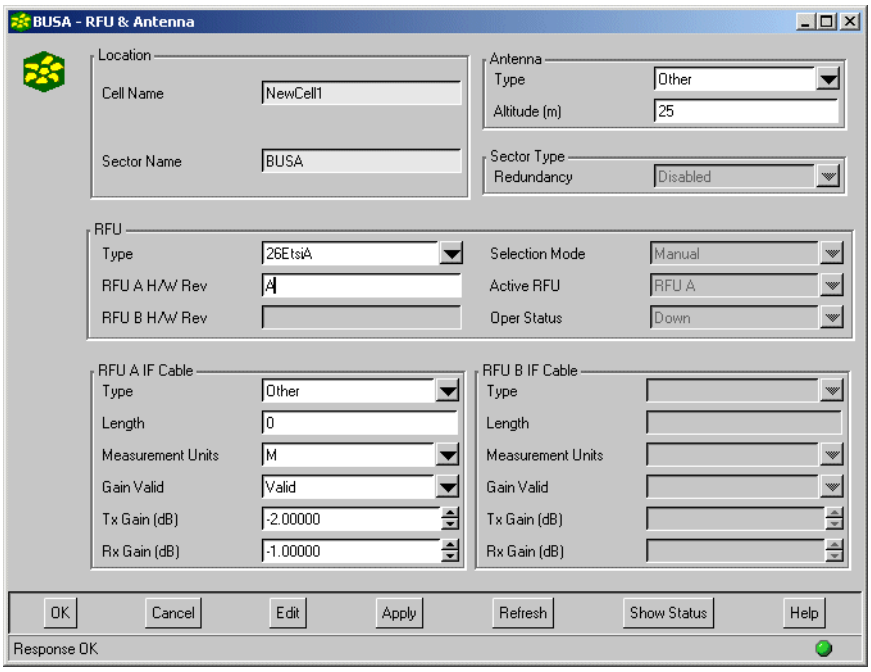


Figure 4-50: Sector RFU and Antenna Dialog Box for sector served by WALKair 3000 Stand-Alone BS-BU



2 Click **Edit** to modify the parameters, as required.

Location area (read-only)	
Cell Name	The name of the cell for which the selected BS-BU has been defined.
Sector Name	The name of the sector for which the selected BS-BU has been defined.
Shelf ID	**Shelf only:** The name or IP address of the master W3K shelf that served this sector.
IF-MUX number	**Shelf only:** The number of the *W3K 6 ports* Mux defined in this sector.
Antenna area	
Type	The only antenna type is vertical.
Altitude (m)	The elevation above sea level in meters.
Sector Type area	
Redundancy	**Shelf only:** Whether redundancy is enabled or not: Disabled / Enabled **Stand-Alone BS-BU:** Disable only.
RFU area	
Type	The RFU head type.

RFU A H/W Rev	The RFU A head type hardware revision. **Stand-Alone BS-BU:** Set to "A."
RFU B H/W Rev	The RFU B head type hardware revision. This field is only enabled when redundancy is enabled.
Selection Mode	The selection mode: **Automatic** / **Manual**
Active RFU	**Shelf only:** The active RFU— **A** / **B**
Oper Status	The operating status: **Up** / **Down**
RFU A and B IF Cable areas (The parameters in the RFU B IF Cable area parameters are only enabled when redundancy is enabled.)	
Type	The cable type: **Other** / **LMR400** / **CF14CU2U500hCm**
Length	The length of cable in measurement units.
Measurement Units	Measurement units for cable length.
Gain Valid	The validity of the Tx and Rx Gain: **Valid** / **Not Valid**. When **Not Valid** is selected, the system default Gain is used. **Stand-Alone BS-BU:** Set to **Valid**.
Tx Gain (dB)	The current Tx Gain in dB. **Stand-Alone BS-BU:** If a DE-MUX is connected, the cable gain attenuation must be measured together with the DE-MUX.
Rx Gain (dB)	The current Rx Gain in dB. **Stand-Alone BS-BU:** If a DE-MUX is connected, the cable gain attenuation must be measured together with the DE-MUX.

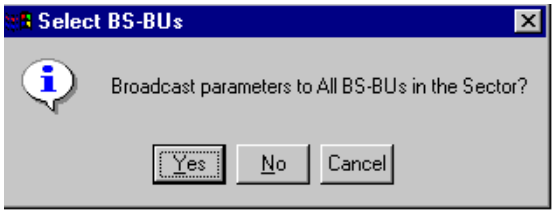
Note

If the cable length is measured in feet, WALKnet converts it to meters and transmits this value to all WALKair 1000 BS-BUs defined in this sector. In BS-BU RFU and antenna screens, you can view the cable length value in meters.

1 Click **Apply** to save any modifications made to the RFU and antenna parameters to the MPU card.

In the case of a WALKair 1000 BS-BU configured in a WALKair 3000 Sector, the *Broadcast Parameters* dialog box is displayed:

Figure 4-51: Broadcast Parameters Dialog Box



For broadcast of parameters to all BS-BUs in the sector, click the **Yes** button, and proceed to step **6**.

OR—

For broadcast of parameters to only selected BS-BUs, click the **No** button, and proceed to the next step.

The *Select BS-BUs To Send* dialog box is displayed:

Figure 4-52: Select BS-BUs To Send Dialog Box

2 Select the WALKair 1000 BS-BUs in the sector to which you want to broadcast the RFU and antenna parameters and click **OK**. The RFU and antenna parameters are broadcast to the selected WALKair 1000 BS-BUs.

Note

The BS-BUs that were marked as being offline during a background polling are grayed in the list. You cannot select them for broadcast.

3 To view the status of the broadcast WALKair 1000 BS-BUs, click **Show Status**. The *Sector Parameters Broadcast* dialog box is displayed, as in the "pure" W1K sector RFU and antenna parameters (see Figure 4-48 on page 4-86).

Configuring RFU and Antenna Parameters from BS-BU View (WALKair 1000 only)

You can view the RFU and antenna parameters set on a particular W1000 BS-BU, and configure the current and default modem working point and variable operation point parameters, which are specific for a BS-BU.

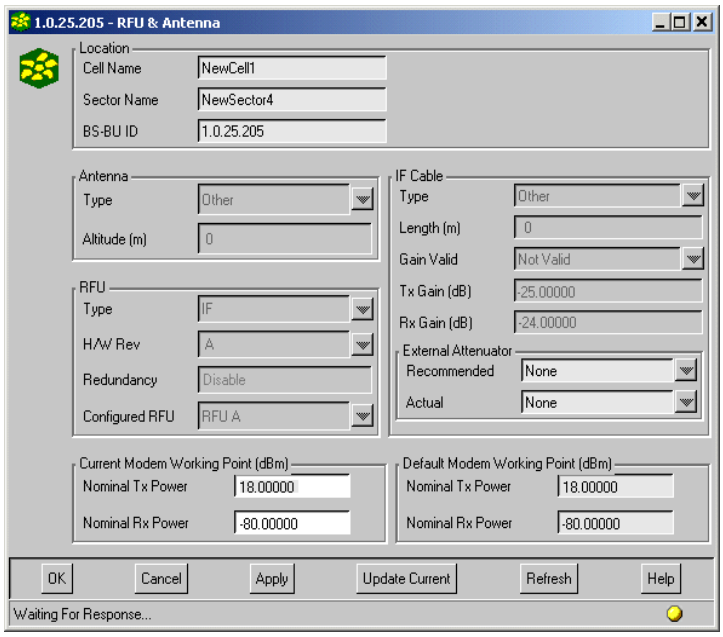
Note

For WALKair 3000 the TS-BU RFU and Antenna parameters are accessed from Sector View only.

To configure RFU and antenna parameters for a BS-BU:

1 In BS-BU View, select **RFU and Antenna** from the BS-BU menu. The *RFU & Antenna* dialog box is displayed:

Figure 4-53: BS-BU RFU & Antenna Dialog Box



Note

The BS-BU *RFU and Antenna* dialog box displays the RFU and antenna parameters received from the selected BS-BU. If the parameters are different from those specified in the WALKnet database, a warning message is displayed. The parameters should then be retransmitted from the sector *RFU & Antenna* dialog box for the selected BS-BU. (For details, see TBD-needcrossref.)

2 Modify the current and default working point parameters as follows:

Current Modem Working Point (dB) area

Nominal Tx Power — The initial power value for Tx. This enables the fine-tuning of distance measurements between the BS-BU and TS-BU in order to optimize modem performance.

Nominal Max Tx Power — The max power value for Tx.

Nominal Rx Power — The initial power value for Rx.

Default Modem Working Point (dB) area (read-only)

Nominal Tx Power — The default modem working point for initial Tx in dB.

Nominal Rx Power — The default modem working point for initial Rx power in dB.

3 Select whether VOP (Variable Operating Point) is enabled or disabled in the **VOP Admin Status** field. The current VOP status is displayed in the **VOP Operational Status** field.

4 Click **Apply** to save any modifications to the BS-BU.

Note

Click **Update Current** to automatically insert the default modem working point values into the current modem working point values.

Configuring TS-BU RFU & and Antenna Parameters (WALKair 1000 only)

The RFU and antenna parameters can be displayed for each WALKair 1000 TS-BU individually.

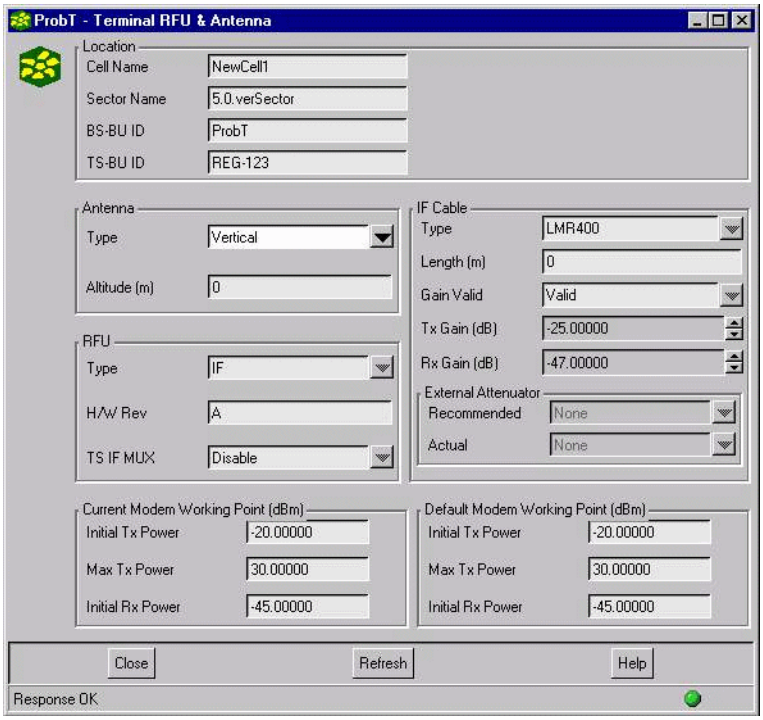
Note

For WALKair 3000 the TS-BU RFU and Antenna parameters are accessed from Sector View only.

To display RFU and antenna parameters for WALKair 1000 TS-BU:

1 In Terminal Station BU View, select **RFU and Antenna** from the *Terminal* menu. The *Terminal RFU & Antenna* dialog box is displayed:

Figure 4-54: WALKair 1000 Terminal RFU and Antenna



2 The RFU and antenna parameters for a TS-BU are the same as the sector RFU and antenna parameters (see page 4-83) except for the following:

- ◇ There is no redundancy, so there are no **RFU B H/W Rev** or **RFU B IF Cable** parameters.
- ◇ The parameters in the **Current** and **Default Modem Working Point** areas are as follows:

Current Modem Working Point area	
Initial Tx Power	The initial power value for Tx. This enables the fine-tuning of distance measurements between the BS-BU and TS-BU in order to optimize modem performance.
Max Tx Power	The maximum power value for Tx.
Initial Rx Power	The initial power value for Rx.

Default Modem Working Point area (read-only)	
Initial Tx Power	The initial power value for Tx for the default modem.
Max Tx Power	The maximum power value for Tx for the default modem.
Initial Rx Power	The initial power value for Rx for the default modem.

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5

Chapter 5 Shelf Management

In This Chapter

- "Hot Swap Controller Management" on page 5-2
- "Main Processing Unit (MPU) Management" on page 5-8
- "Network Interface Unit Management" on page 5-17
- "Intermediate Frequency Unit (IFU) Management" on page 5-32
- "Power Supply Unit (PSU) Management" on page 5-35
- "Power Input Board (PIB) Management" on page 5-37
- "Fan Management" on page 5-39

Hot Swap Controller Management

Creating Hot Swap Controller Cards

For detailed description of creating WALKair 3000 HSC card refer to "Modifying HSC Properties" on page 5-5. Once an HSC has been defined, its configuration parameters are accessible.

Displaying HSC View

HSC View enables you to examine the configuration parameters of the HSC.

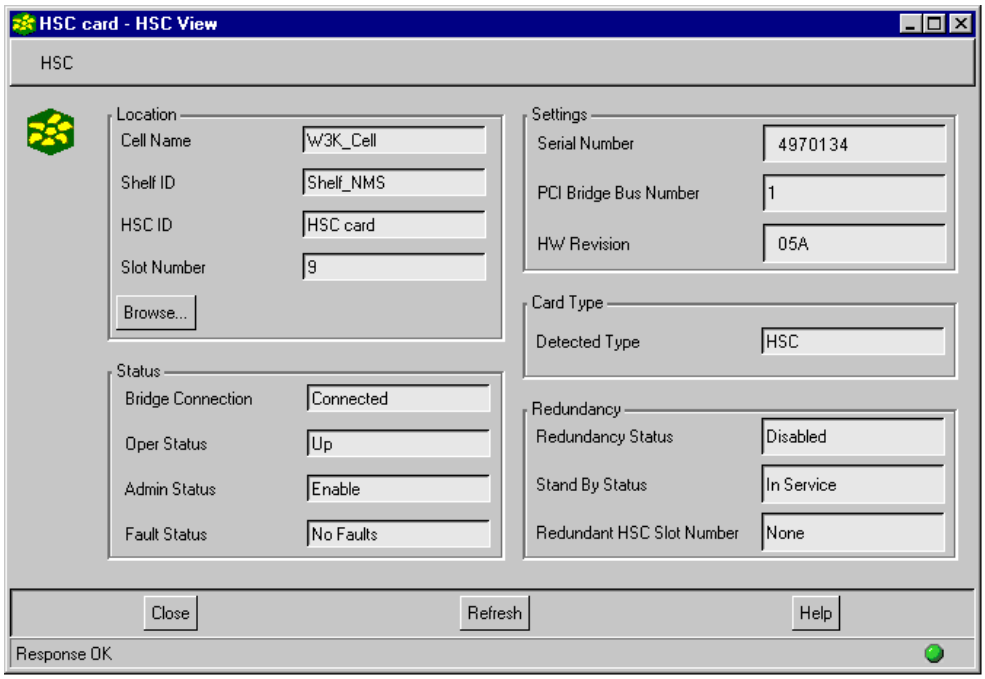
To access HSC View:

HSC View can be accessed in one of the following ways:

- In the Network Navigation Tree, by double-clicking an HSC node.
- In *Sector View* or *Shelf View*, by double-clicking an HSC Card.
- Select an HSC Card in *Sector View*. Select **Chassis Slot** from the *Element* menu and then select **View**.
- Select an HSC Card in *Shelf View*. Select **Chassis Slot** from the *Chassis Element* menu and then select **View**.

The *HSC View* screen for the selected HSC is displayed:

Figure 5-1: HSC View Dialog Box



HSC View displays the configuration parameters of the selected HSC Card. The parameters are read-only. To modify the configuration parameters, refer to "Modifying HSC Properties" on page 5-5.

The following parameters are displayed in *HSC View*:

Location area	
Cell Name	The name of the cell for which this HSC has been defined.
Shelf ID	The IP address of the W3K shelf.
HSC ID	The system name, if defined, for the HSC or, when no system name is defined, a slot number is used as HSC ID. The system name is defined in the *HSC Properties Edit* dialog box.
Slot Number	Number of slot in the shelf, where this HSC is installed.
Browse Button	Enables you to display configuration information for another HSC in any shelf within the same map.
Settings area	
Serial Number	The serial number of the HSC.

PCI Bridge Number	Bus number for the HSC Bridge slots PCI-to-PCI bridge device.
HW Revision	Hardware version of a card.
Status area	
Bridge Connection	This flag is set when the automatic process that connects and initializes an HSC Bridge to the PCI bus has completed (**Connected, Disconnected, Unknown**).
Oper Status	Current card status (**Up, Down, Test**).
Admin Status	Administrative status requested by NMS (**Enable, Disable**).
Fault status	The severity of the card fault. This is summarized information regarding the card's health in the slot (**No Faults, Minor, Major, Critical**).
Detected Card Type area	
Detected Card Type	The auto detected card type. It also indicates whether the slot has a card inserted in it or not.
Redundancy area	
Redundancy Status	Indicates whether redundancy is allowed for this card.
Stand By Status	Indicates whether the board is a standby device.
Redundant HSC Slot Number	Indicates the slot number of the standby card. "**None**" indicates that a redundant card is not defined.

From *HSC View*, you can do the following:

- Display configuration information for another HSC in any sector in any cell in the same map (see "Horizontal Navigation" on page 2-19).
- Edit HSC properties (see below).

Deleting HSCs

Deleting HSC from a shelf permanently removes the HSC from the shelf.

To delete an HSC:

For detailed description of deleting WALKair 3000 slot cards refer to "Shelf Management" on page 4-19.

Modifying HSC Properties

You can modify the properties of HSC from *Sector View*, *Shelf View* or *HSC View*.

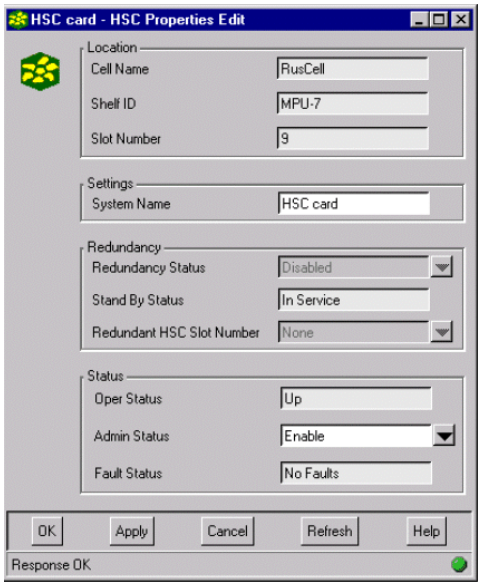
To modify HSC properties:

1 Open the *HSC Properties Edit* dialog box in one of the following ways:

- ◇ Select an HSC Card in *Sector View*. Select **Chassis Slot** from the *Element* menu and then select **Edit Card Properties**.
- ◇ Select an HSC Card in *Shelf View*. Select **Chassis Slot** from the *Chassis Element* menu and then select **Edit Card Properties**.
- ◇ In the *HSC View* screen, select **Edit HSC** from the *HSC* menu.

The HSC Properties Edit dialog box is displayed:

Figure 5-2: HSC Properties Edit Dialog Box



The following parameters are displayed in *HSC Properties Edit* dialog box:

Location area	
Cell Name	The name of the cell for which this HSC has been defined. Read-only.
Shelf ID	The name of the shelf for which this HSC has been defined. If the Shelf name is not defined, the Shelf's IP Address is used as the Shelf ID. Read-only.
Slot Number	Number of the slot in the shelf where this HSC is installed. Read-only.
Settings area	
System Name	System name of the HSC. Read-write.
Redundancy area	
Redundancy Status	Indicates whether redundancy is allowed for this card. Read-write.
Stand By Status	Indicates whether the board is a standby device. Read-only.
Redundant HSC Slot Number	Indicates the slot number of the standby card. "**None**" indicates that a redundant card is not defined. Read-write, if Redundancy is enabled.

Status area	
Oper Status	Current card status (**Up, Down, Test**). Read-only.
Fault status	The severity of the card fault. This is summarized information regarding the card's health in the slot (**No Faults, Minor, Major, Critical**). Read-only.
Admin Status	Administrative status requested by NMS (**Enable, Disable**). Read-write.

Note

The **Cell Name** and **Shelf ID** fields are read-only fields that display the names of the cell and shelf for which the HSC is defined.

Note

When you define a system name for the HSC, that name appears in the **HSC ID** field and the title bar of the HSC dialog screens. When no system name is entered, HSC Slot Number is used to identify the HSC.

Moving HSC Slot Positions

HSCs, like all other cards, can be moved from one slot to another.

For detailed description of moving HSCs, refer to Chapter 4, “Cell Configuration.”

Main Processing Unit (MPU) Management

Displaying MPU View

MPU View enables you to examine the configuration parameters of the MPU.

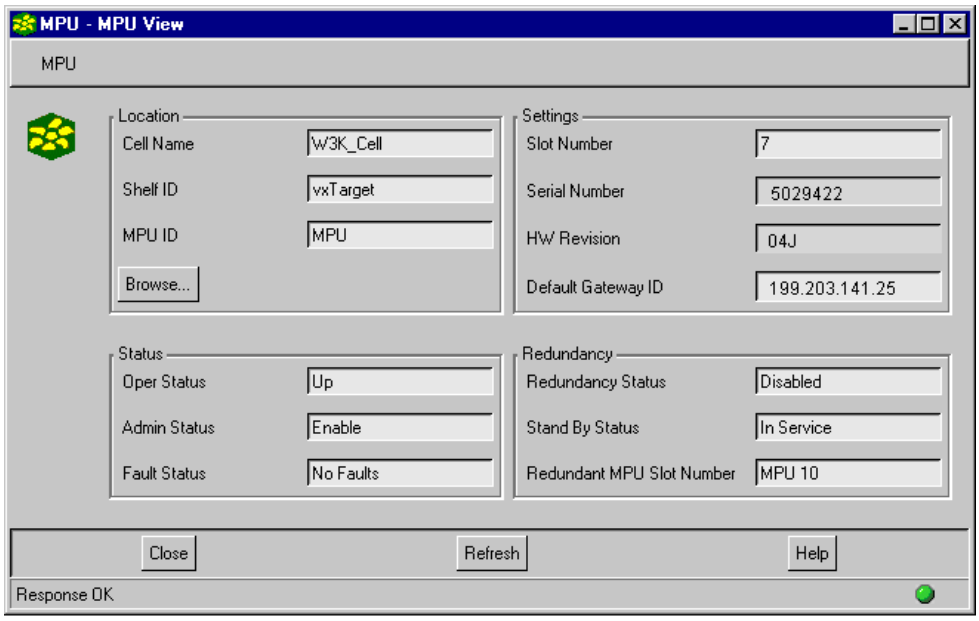
To access MPU View:

MPU View can be accessed in one of the following ways:

- In the Network Navigation Tree by double-clicking an MPU node.
- In *Sector View* or *Shelf View* by double-clicking an MPU Card.
- By selecting an MPU Card in *Sector View*. Then selecting **Chassis Slot** from the *Element* menu and then selecting **View**.
- By selecting an MPU Card in *Shelf View*. Then selecting **Chassis Slot** from the *Chassis Element* menu and then selecting **View**.

The *MPU View* screen for the selected MPU is displayed:

Figure 5-3: MPU View Dialog Box



MPU View displays the configuration parameters of the selected MPU Card. The parameters are read-only. To modify the configuration parameters, see "Modifying MPU Properties" on page 5-10.

The following parameters are displayed in *MPU View*:

Location area	
Cell Name	The name of the cell for which this MPU has been defined.
Shelf ID	The name of the shelf for which this MPU has been defined. If the Shelf name is not defined, the Shelf's IP Address is used as the Shelf ID.
MPU ID	The system name, if defined, for the MPU or, when no system name is defined, slot number is used as MPU ID. The system name is defined in the *MPU Properties Edit* dialog box.
Browse Button	Enables you to display configuration information for another MPU in any shelf within same map.
Settings area	
Slot Number	Number of the slot in the shelf, where this MPU is installed.
Serial Number	The serial number of the MPU.
HW Revision	Hardware version of a card.
Default Gateway ID	Bus number for the MPU Bridge slots PCI-to-PCI bridge device.
Status area	
Oper Status	Current card status (**Up, Down, Test**).
Fault status	The severity of the card fault. This is summarized information regarding the card's health in the slot (**No Faults, Minor, Major, Critical**).
Admin Status	Administrative status requested by NMS (**Enable, Disable**).
Detected Card Type area	
Detected Card Type	The auto detected card type. It also indicates whether the slot has a card inserted in it or not.

Redundancy area	
Redundancy Status	Indicates whether redundancy is allowed for this card (**Enabled, Disabled**). Read-write.
Stand By Status	Indicates whether the board is a standby device. Read-only.
Redundant MPU Slot Number	Indicates the slot number of the standby card. "**None**" indicates that a redundant card is not defined. Read-write, if Redundancy is enabled.

From MPU View, you can do the following:

- Display configuration information for another MPU in any sector in any cell in the same map (see "Horizontal Navigation" on page 2-19).
- Edit MPU properties (see "Modifying HSC Properties" on page 5-5).
- Manage software versions resets (see "Shelf Management" on page 4-19).

Deleting MPUs

Deleting MPU from a shelf permanently removes the MPU from the shelf.

To delete an MPU:

For detailed description of deleting WALKair 3000 slot cards, refer to "Sector and Shelf Management" on page 4-8.

Modifying MPU Properties

You can modify the properties of MPU from *Sector View*, *Shelf View* or *MPU View*.

To modify MPU properties:

Open the MPU Properties Edit dialog box in one of the following ways:

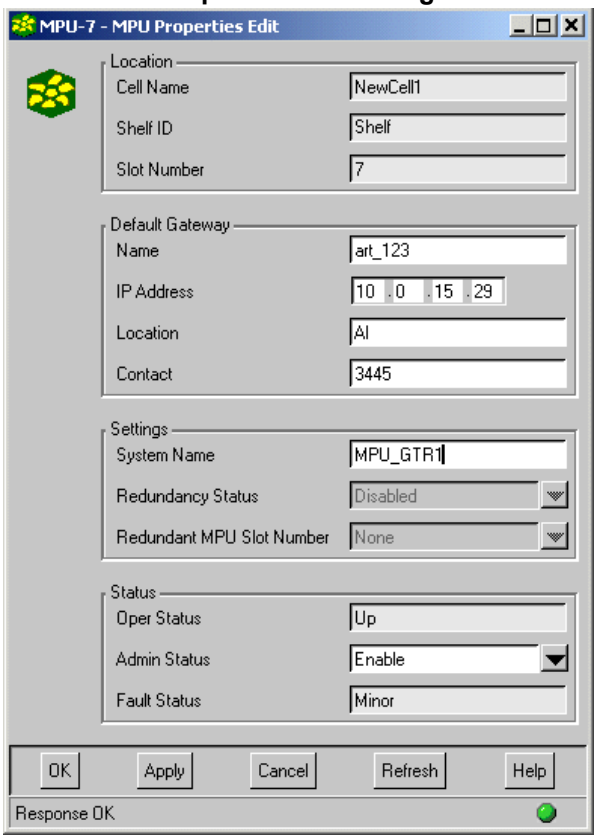
- Select an MPU Card in *Sector View*. Select **Chassis Slot** from the *Element* menu and then select **Edit Card Properties**.

- Select an MPU Card in *Shelf View*. Select **Chassis Slot** from the *Chassis Element* menu and then select **Edit Card Properties**.

- In the *MPU View* select **Edit MPU** from the *MPU* menu.

The *MPU Properties Edit* dialog box is displayed:

Figure 5-4: MPU Properties Edit Dialog Box



The following parameters are displayed in *MPU Properties Edit* dialog box:

Location area	
Cell Name	The name of the cell for which this MPU has been defined. Read-only.
Shelf ID	The name of the shelf for which this MPU has been defined. If the Shelf name is not defined, the Shelf's IP Address is used as the Shelf ID. Read-only.

Slot Number	Number of the slot in the shelf where this MPU is installed. Read-only.
Default Gateway area	
Name	Default Gateway name. Administrative information describing the Default Gateway connected to the Base station. It is useful to be in contact with Gateway staff in case of IP connection problems. Read-write.
IP Address	Default Gateway IP address. This is administrative information describing the Default Gateway connected to the Base station. It is useful to be in contact with Gateway staff in case of IP connection problems. Read-write.
Location	Default Gateway location. This is administrative information describing the Default Gateway connected to the Base station. It is useful to be in contact with Gateway staff in case of IP connection problems. Read-write.
Contact	Default Gateway contact. This is administrative information describing the Default Gateway connected to the Base station. It is useful to be in contact with Gateway staff in case of IP connection problems. Read-write.
Settings area	
System Name	System name of the MPU. Read-write.
Redundancy Status	Indicates whether redundancy is allowed for this card (**Enabled**, **Disabled**). Read-write.
Redundant MPU Slot Number	Indicates the slot number of the standby card. "**None**" indicates that a redundant card is not defined.
Status area	
Oper Status	Current card status (**Up, Down, Test**). Read-only.
Fault status	The severity of the card fault. This is summarized information regarding the card's health in the slot (**No Faults, Minor, Major, Critical**). Read-only.

Admin Status	Administrative status requested by NMS (**Enable, Disable**). Read-write.

Note

The **Cell Name** and **Shelf ID** fields are read-only fields that display the names of the cell and shelf for which the MPU is defined.

Note

When you define a system name for the MPU, that name appears in the **MPU ID** field and the title bar of the MPU dialog screens. When no system name is entered, MPU Slot Number is used to identify the MPU.

Saving an MPU Configuration

The configuration of the defined system topology and/or defined system services can be saved on the shelf MPU.

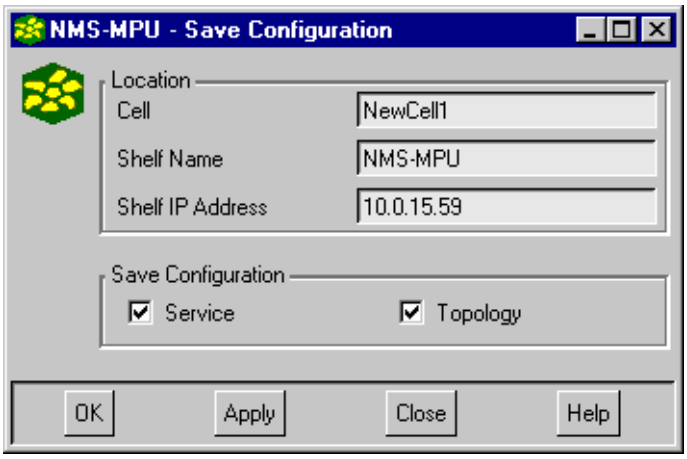
To save a configuration on the shelf MPU:

1 Open the *Save Configuration* dialog box in one of the following ways:

- ◇ In *Sector View*, from the Shelf menu, select **Configuration**. Then select **Save Configuration**.
- ◇ In *Shelf View*, from the Shelf menu, select **Configuration**. Then select **Save Configuration**.

The *Save Configuration* dialog box is displayed:

Figure 5-5: Save Configuration Dialog Box



The Cell Name, Shelf Name and Shelf IP Address are displayed in the dialog box.

2 To save a service configuration, check the **Service** check box.

3 To save a Topology configuration, check the **Topology** check box.

Note

Both Service and Topology can be saved at the same time.

4 To apply the changes, click **Apply**.

5 Click on **OK** to complete saving the configuration.

Uploading and Downloading an MPU Configuration

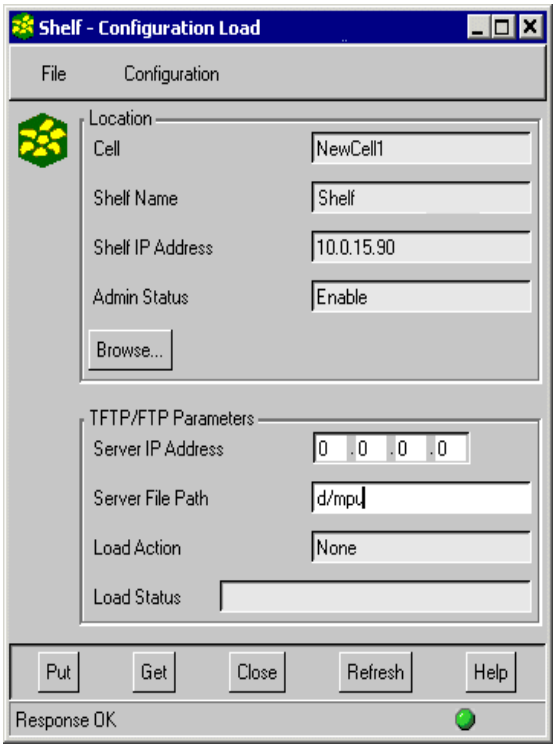
Once an MPU card has been configured, its configuration can be uploaded to a server. Later on, the saved configuration can be downloaded from the server to another MPU, or to the original MPU if problems were encountered after changing parameters and it is required to return to the original configuration.

To upload or download an MPU configuration to a server:

1 In *Sector View*, from the *Shelf* menu, select **Configuration**. Then select **Configuration Load**.

The *Configuration Load* dialog box is displayed:

Figure 5-6: Configuration Load Dialog Box



2 If you want to navigate to a different shelf or different MPU on the same shelf, click **Browse** and select the appropriate shelf and MPU.

3 In the FTP Parameters area, enter the **Server IP Address** and the **FTP Server File Path**.

4 To upload to the server, click the **Put** button or select **Put** from the *Configuration* menu.

OR—

5 To download from the server to the MPU, click the **Get** button or select **Get** from the *Configuration* menu.

Accessing Software Reset Management

To Access Software Reset Management:

For a detailed description of software reset management, refer to Versions and Reset Management in Chapter 10, “Utilities”.

Moving MPU Slot Positions

MPUs, like all other cards, can be moved from one slot to another.

For a detailed description of moving MPUs refer to “Shelf Management” on page 4-19.

Network Interface Unit Management

The next step when defining a WALKair 3000 Shelf is to define Network Interface Units: ATM-NIUs for STM-1 or E3, or 12xE1 NIUs for E1.

Creating Network Interface Units

For a detailed description of creating a WALKair 3000 ATM-NIU/2xE1 NIU/E3 NIU card, refer to "Shelf Management" on page 4-19. Once an NIU is defined, its configuration parameters are accessible.

Displaying ATM-NIU View

ATM-NIU View enables you to examine the configuration parameters of the ATM-NIU.

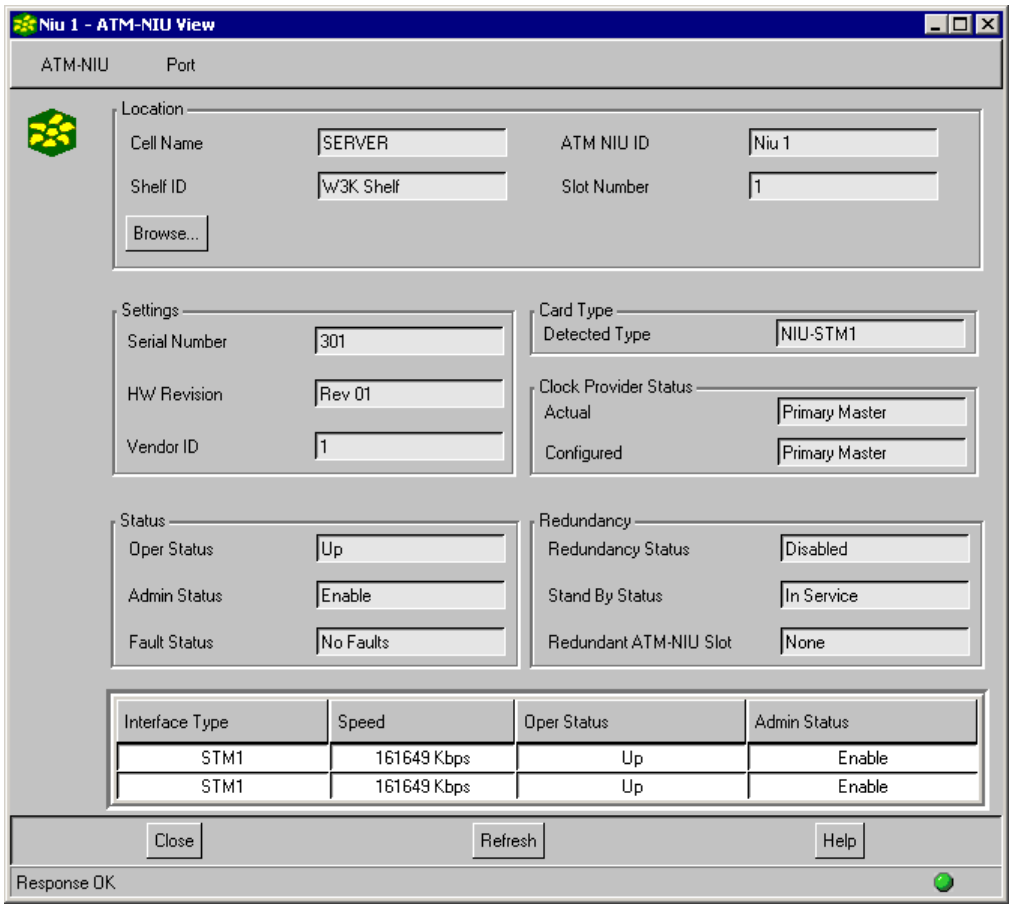
To access ATM-NIU View:

ATM-NIU View can be accessed in one of the following ways:

- In the Navigation Tree, by double-clicking an ATM-NIU node.
- In *Sector View* or *Shelf View*, by double-clicking an ATM-NIU Card.
- By selecting an ATM-NIU Card in *Sector View*. Then selecting **Chassis Slot** from the *Element* menu and then selecting **View**.
- By selecting an ATM-NIU Card in *Shelf View*. Then selecting **Chassis Slot** from the *Chassis Element* menu and then selecting **View**.

The *ATM-NIU View* screen for the selected ATM-NIU is displayed:

Figure 5-7: ATM-NIU View Dialog Box



ATM NIU Configuration Parameters

ATM-NIU View displays the configuration parameters of the selected ATM-NIU Card. The parameters are read-only. In order to modify the configuration parameters, refer to "Modifying NIU Properties" on page 5-28.

The following parameters are displayed in *ATM-NIU View* dialog box:

Location area	
Cell Name	The name of the cell for which this ATM-NIU has been defined. Read-only.
Shelf ID	The name of the shelf for which this ATM-NIU has been defined. If the Shelf name is not defined, the Shelf's IP Address is used as the Shelf ID.
ATM-NIU ID	The system name, if defined, for the ATM-NIU or, when no system name is defined, the slot number is used as the ATM-NIU ID. The system name is defined in the *ATM-NIU Properties Edit* dialog box.
Browse Button	Enables you to display configuration information for another ATM-NIU in any shelf within same map.
Slot Number	Number of the slot in the shelf where this ATM-NIU is installed. Read-only.
Settings area	
Serial Number	The serial number of the ATM-NIU.
HW Revision	The hardware version of the card.
Vendor ID	The card vendor ID.
Status area	
Oper Status	Current card status (**Up, Down, Test**).
Fault status	The severity of the card fault. This is summarized information regarding the card's health in the slot (**No Faults, Minor, Major, Critical**).
Admin Status	Administrative status requested by NMS (**Enable, Disable**).
Detected Card Type Area	

Detected Card Type	The auto detected card type. It also indicates whether the slot has a card inserted in it or not.
Clock Provider Status area	
Configured	This parameter represents the configured status of the ATM-NIU card as a clock provider.
Actual	This parameter represents the actual status of the ATM-NIU card as a clock provider.
Redundancy area	
Redundancy Status	Indicates whether redundancy is allowed for this card (**Enabled**, **Disabled**).
Stand By Status	Indicates whether the board is a standby device. Read-only.
Redundant ATM-NIU Slot Number	Indicates the slot number of the standby card. "**None**" indicates that a redundant card is not defined.
Interface list at bottom of dialog	Onboard ATM Ports Configuration parameters (Read-only).
Port Type	Can be **E3** or **STM1**.
Speed	The data transfer rate in Kbps.
Port Oper Status	The operational status of the telecom interfaces: **up** or **down**.

From *ATM-NIU View*, you can do the following:

- Display configuration information for another ATM-NIU in any sector in any cell in the same map (see "Horizontal Navigation" on page 2-19).
- Edit properties (see "Modifying NIU Properties" on page 5-28).
- Edit onboard ports properties (see "Configuring ATM or E1 or E3 Interfaces" on page 5-31).
- Manage software versions resets (see "Accessing Software Reset Management" on page 5-31).

Displaying 12xE1-NIU View

12xE1-NIU View enables you to examine the configuration parameters of the 12xE1-*NIU*.

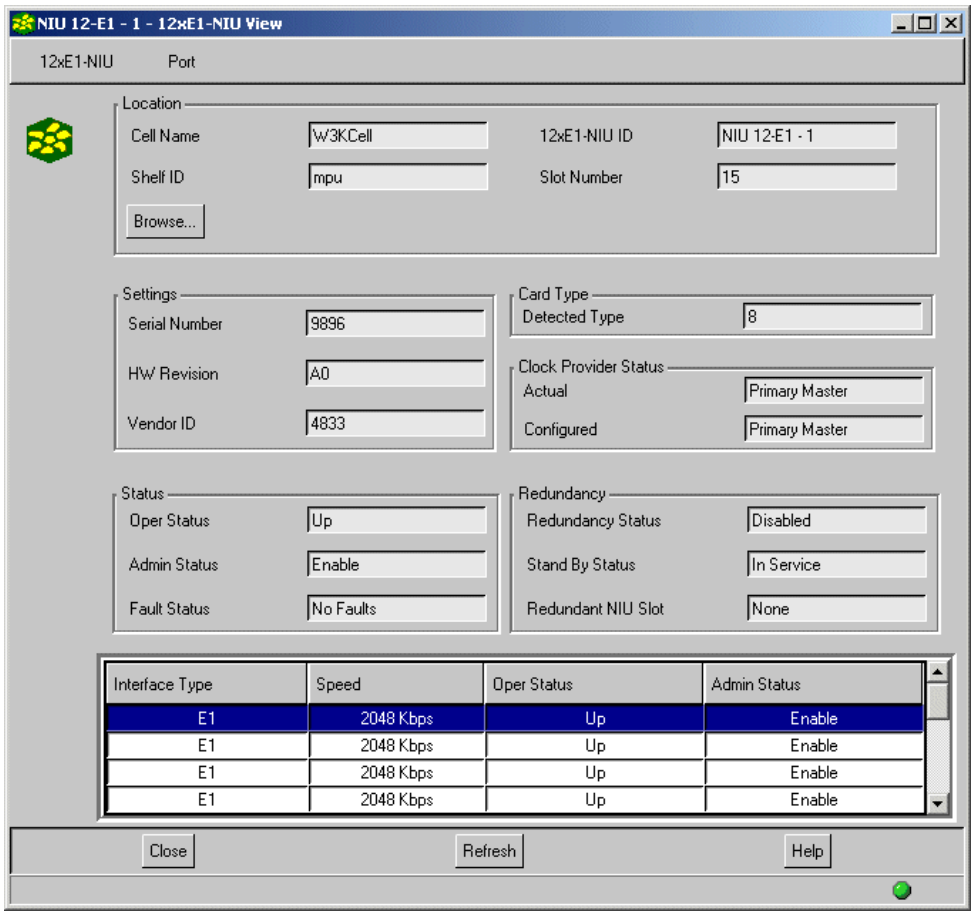
To access 12xE1 NIU View:

12xE1 View can be accessed in one of the following ways:

- In the Navigation Tree by double-clicking a 12xE1 NIU node.
- In *Sector View* or *Shelf View* by double-clicking a 12xE1 NIU Card.
- By selecting a 12xE1 NIU Card in *Sector View*. Then selecting **Chassis Slot** from the *Element* menu and then selecting **View**.
- By selecting a 12xE1 NIU Card in *Shelf View*. Then selecting **Chassis Slot** from the *Chassis Element* menu and then selecting **View**.

  The *12xE1 NIU View* screen for the selected 12xE1 NIU is displayed:

Figure 5-8: 12 xE1-NIU View Dialog Box



12 x E1 NIU Configuration Parameters

12xE1 NIU View displays the configuration parameters of the selected *12xE1 NIU* Card. The parameters are read-only. In order to modify the configuration parameters refer to "Modifying NIU Properties" on page 5-28.

The following parameters are displayed in the *12xE1 NIU View* dialog box:

Location area	
Cell Name	The name of the cell for which this 12xE1 *NIU* has been defined.
Shelf ID	The name of the shelf for which this 12xE1 *NIU* has been defined. If the Shelf name is not defined, the Shelf's IP Address is used as the Shelf ID.
12xE1 NIU ID	The system name, if defined, for the ATM-NIU or, when no system name is defined, the slot number is used as the ATM-NIU ID. The system name is defined in the *ATM-NIU Properties Edit* dialog box.
Browse Button	Enables you to display configuration information for another 12xE1 *NIU* in any shelf within same map.
Slot Number	Number of the slot in the shelf where this 12xE1 *NIU* is installed.
Settings area	
Serial Number	The serial number of the 12xE1 *NIU*.
HW Revision	The hardware version of the 12xE1 *NIU*.
Vendor ID	The card vendor ID.
Status area	
Oper Status	Current card status (**Up, Down, Test**).
Fault status	The severity of the card fault. This is summarized information regarding the card's health in the slot (**No Faults, Minor, Major, Critical**).
Admin Status	Administrative status requested by NMS (**Enable, Disable**).
Detected Card Type Area	
Detected Card Type	The auto detected card type. It also indicates whether the slot has a card inserted in it or not.

Clock Provider Status area	
Configured	This parameter represents the configured status of the 12xE1 *NIU* card as a clock provider.
Actual	This parameter represents the actual status of the 12xE1 *NIU* card as a clock provider.
Redundancy area	
Redundancy Status	Indicates whether redundancy is allowed for this card (**Enabled**, **Disabled**).
Stand By Status	Indicates whether the board is a standby device. Read-only.
Redundant NIU Slot	Indicates the slot number of the standby card. "**None**" indicates that a redundant card is not defined.
Interface list at bottom of dialog	Onboard E1 Ports Configuration parameters (Read-only).
Interface Type	Can be **E1** only.
Speed	The data transfer rate in Kbps.
Port Oper Status	The operational status of the telecom interfaces: **up** or **down**.
Port Admin Status	The administrative status of the telecom interfaces: **Enabled** or **Disabled**.

From *12xE1 NIU View*, you can do the following:

- Display configuration information for another *12xE1 NIU* in any sector in any cell in the same map (see "Horizontal Navigation" on page 2-19).
- Edit NIU properties (see "Modifying NIU Properties" on page 5-28).
- Edit onboard ports properties (see "Configuring ATM or E1 or E3 Interfaces" on page 5-31.
- Manage software versions resets (see "Shelf Management" on page 4-19).

Displaying E3-NIU View

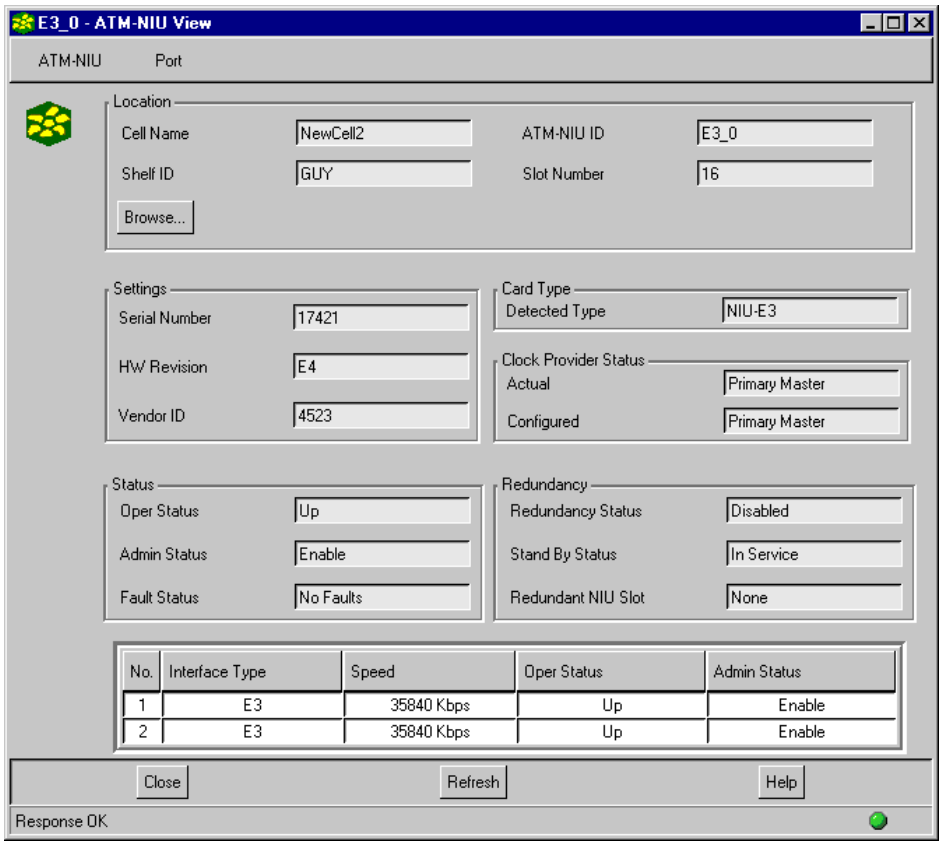
E3-NIU View enables you to examine the configuration parameters of the E3-*NIU*.

E3 View can be accessed in one of the following ways:

- In the Navigation Tree by double-clicking an E3 NIU node.
- In *Sector View* or *Shelf View* by double-clicking an E3 NIU Card.
- By selecting an E3 NIU Card in *Sector View*. Then selecting **Chassis Slot** from the *Element* menu and then selecting **View**.
- By selecting an E3 NIU Card in *Shelf View*. Then selecting **Chassis Slot** from the *Chassis Element* menu and then selecting **View**.

The *E3-NIU View* screen for the selected E3 NIU is displayed:

Figure 5-9: E3-NIU View Dialog Box



E3 NIU Configuration Parameters

E3 NIU View displays the configuration parameters of the selected *E3 NIU* Card.

Location area	
Cell Name	The name of the cell for which this E3 NIU has been defined.
Shelf ID	The name of the shelf for which this E3 NIU has been defined. If the Shelf name is not defined, the Shelf's IP Address is used as the Shelf ID.
ATM NIU ID	The system name, if defined, for the ATM-NIU or, when no system name is defined, the slot number is used as the ATM-NIU ID. The system name is defined in the *ATM-NIU Properties Edit* dialog box.
Browse Button	Enables you to display configuration information for another E3 NIU in any shelf within same map.
Slot Number	Number of the slot in the shelf where this E3 NIU is installed.
Settings area	
Serial Number	The serial number of the E3 NIU.
HW Revision	The hardware version of the E3 NIU.
Vendor ID	The card vendor ID.
Status area	
Oper Status	Current card status (**Up, Down, Test**).
Fault status	The severity of the card fault. This is summarized information regarding the card's health in the slot (**No Faults, Minor, Major, Critical**).
Admin Status	Administrative status requested by NMS (**Enable, Disable**).
Detected Card Type Area	
Detected Card Type	The auto detected card type. It also indicates whether the slot has a card inserted in it or not.
Clock Provider Status area	

Configured	This parameter represents the configured status of the E3 NIU card as a clock provider.
Actual	This parameter represents the actual status of the E3 NIU card as a clock provider.
Redundancy area	
Redundancy Status	Indicates whether redundancy is allowed for this card (**Enabled**, **Disabled**).
Stand By Status	Indicates whether the board is a standby device. Read-only.
Redundant NIU Slot	Indicates the slot number of the standby card. "**None**" indicates that a redundant card is not defined.
Interface list at bottom of dialog	Onboard E1 Ports Configuration parameters (Read-only).
Interface Type	Can be **E3** only.
Speed	The data transfer rate in Kbps.
Port Oper Status	The operational status of the telecom interfaces: **up** or **down**.
Port Admin Status	The administrative status of the telecom interfaces: **Enabled** or **Disabled**.

The parameters are read-only. In order to modify the configuration parameters refer to "Modifying NIU Properties" on page 5-28.

From *E3 NIU View*, you can do the following:

- Display configuration information for another *E3 NIU* in any sector in any cell in the same map (see "Horizontal Navigation" on page 2-19).
- Edit NIU properties (see "Modifying NIU Properties" on page 5-28).
- Edit onboard ports properties (see "Configuring ATM or E1 or E3 Interfaces" on page 5-31.
- Manage software versions resets (see "Shelf Management" on page 4-19).

Deleting NIUs

ATM-NIU or *12xE1 NIU* cards can be deleted from a shelf.

Deleting an ATM/*12xE1/E3 NIU* from a shelf permanently removes the NIU from the shelf.

For a detailed description of deleting WALKair 3000 slot cards refer to "Shelf Management" on page 4-19.

Modifying NIU Properties

You can modify the properties of an ATM/*12xE1/E3 NIU* from *Sector View*, *Shelf View* or *NIU View*.

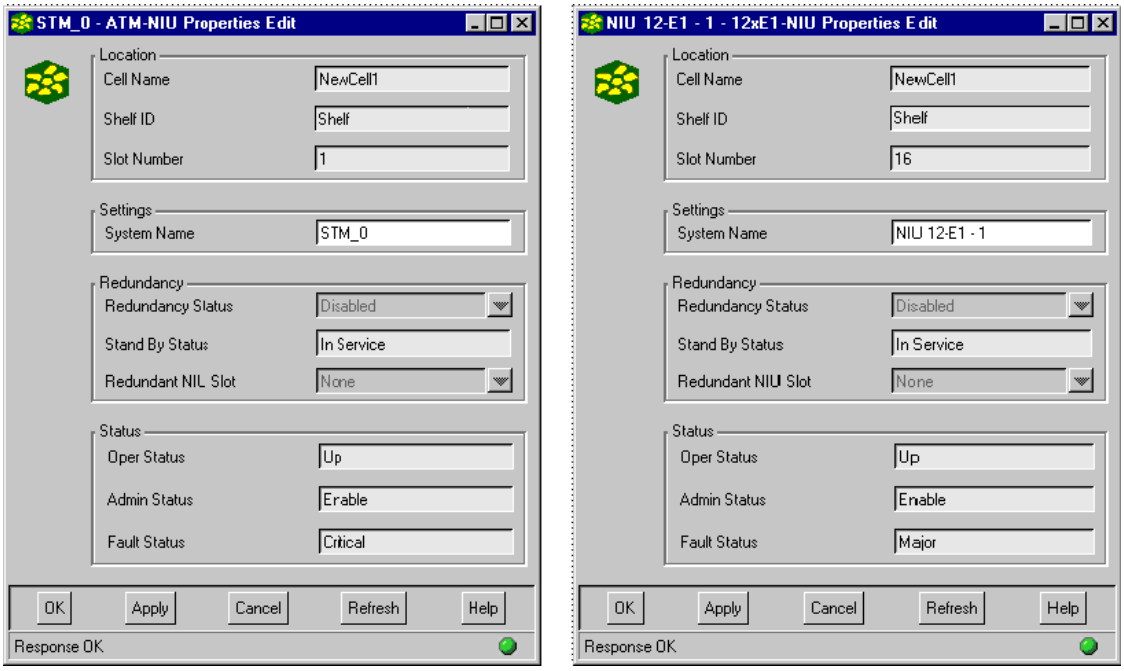
To modify NIU properties:

Open the *ATM-NIU/12xE1 NIU/E3-NIU Properties Edit* dialog box in one of the following ways:

- Select an NIU Card in *Sector View*. Select **Chassis Slot** from the *Element* menu and then select **Edit Card Properties**.
- Select an NIU Card in *Shelf View*. Select **Chassis Slot** from the *Chassis Element* menu and then select **Edit Card Properties**.
- In *NIU View* select **Edit NIU** from the *NIU* menu.

  The *Properties Edit* dialog box is displayed. Two examples are shown below: one for ATM-NIU (STM-1 or E3) and one for 12xE1 NIU).

Figure 5-10: ATM-NIU/12xE1/E3 NIU Properties Edit Dialog Boxes



NIU Properties Parameters

The following parameters are displayed in *an NIU Properties Edit* dialog box:

Location area	
Cell Name	The name of the cell for which this NIU has been defined.
Shelf ID	The name of the shelf for which this NIU has been defined. If the Shelf name is not defined, the Shelf's IP Address is used as the Shelf ID. Read-only.
Slot Number	Number of the slot in the shelf where this *NIU* is installed.
Settings area	
System Name	The system name of the NIU. Read-write.
Redundancy Status	Indicates whether redundancy is allowed for this card (**Enabled**, **Disabled**).
Redundant NIU Slot Number	Indicates the slot number of the standby card. "**None**" indicates that a redundant card is not defined. Read-write, if Redundancy is enabled.
Status area	
Oper Status	Current card status (**Up, Down, Test**). Read-only.
Fault status	The severity of the card fault. This is summarized information regarding the card's health in the slot (**No Faults, Minor, Major, Critical**). Read-only.
Admin Status	Administrative status requested by NMS (**Enable, Disable**).

Note

The **Cell Name** and **Shelf ID** fields are read-only fields that display the names of the cell and shelf for which the NIU is defined.

Note

When you define a system name for the ATM-NIU or 12xE1 NIU, that name appears in the **ATM NIU** or 12xE1 NIU **ID** field and the title bar of the ATM-NIU or 12xE1 NIU dialog screens. When no system name is entered, the ATM-NIU or 12xE1 NIU Slot Number is used to identify the ATM-NIU or 12xE1 NIU.

Moving NIU Slot Positions

NIU cards, like all other cards, can be moved from one slot to another.

For a detailed description of moving NIUs refer to “Shelf Management” on page 4-19.

Accessing Software Reset Management

For a detailed description of software reset management refer to “Shelf Management” on page 4-19.

Configuring ATM or E1 or E3 Interfaces

For a detailed description of configuring ATM or E1 interfaces please refer to Telecom Interfaces in Chapter 6, “Telecom Port Configuration”.

Intermediate Frequency Unit (IFU) Management

Displaying IFU View

IFU View enables you to examine the configuration parameters of the IFU.

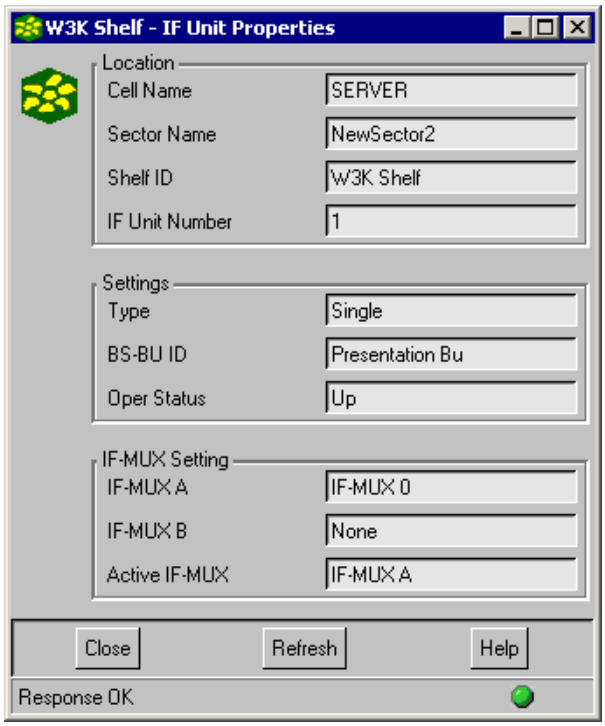
To access IFU View:

IFU View is accessed in one of the following ways:

- In *Sector View* or *Shelf View*, by double-clicking an IFU image.
- By selecting **IF Unit** from the *Element* menu in *Sector View* and then selecting **Properties**.
- By selecting an IFU in *Shelf View*. Then selecting **IF Unit** from the *Chassis Element* menu and then selecting **Properties.**

The *IFU Unit Properties* dialog box for the selected IFU is displayed:

Figure 5-11: IFU Unit Properties Dialog Box



IFU View displays the configuration parameters of the selected IF Unit. These parameters are read-only. The following parameters are displayed in *IFU View* dialog box:

Location area	
Cell Name	The name of the cell for which this IFU has been defined.
Sector Name	The name of the sector for which this IFU has been defined.
Shelf ID	The name of the shelf for which this IFU has been defined. If the Shelf name is not defined, the Shelf's IP Address is used as the Shelf ID. Read-only.
IFU Number	The IF Unit's number.
Settings area	
Type	Type of IFU: Single or Two If-Mux connectivity.
BU ID	The BU ID of the W3000 BS-BU linked to current IF Unit.
Oper Status	Current card status (**Up, Down, Test**). Read-only.

Redundant BU Slot Number	Indicates the slot number of the standby card. "**None**" indicates that a redundant card is not defined. Read-write, if Redundancy is enabled.
If area	
If-MUX A #	Indicates the number of the If-Mux A connected to this IFU.
If-MUX B #	Indicates the number of the If-Mux B connected to this IFU.
Active If-MUX	Displays the currently active If-Mux number.

Power Supply Unit (PSU) Management

Displaying PSU Edit Properties

The *PSU Properties* dialog box enables you to examine and configure the parameters of the PSU.

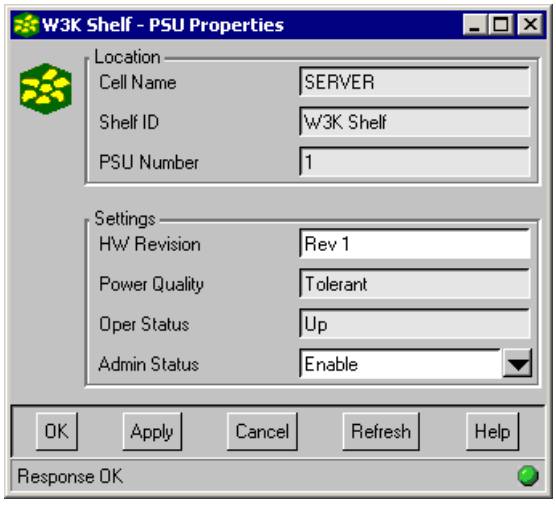
To access PSU Properties:

The *PSU Properties* dialog box is accessed in one of the following ways:

- In *Sector View* or *Shelf View*, by double-clicking a PSU image.
- By selecting a PSU in *Sector View*. Then selecting **Power Supply Unit** from the *Element* menu and then selecting **Properties**.
- By selecting a PSU in *Shelf View*. Then selecting **Power Supply Unit** from the *Chassis Element* menu and then selecting **Properties**.

The *PSU Properties* dialog box for the selected PSU is displayed:

Figure 5-12: PSU Properties Dialog Box



PSU Properties dialog box displays the configuration parameters of the selected PSU.

The following parameters are displayed in the *PSU Properties* dialog box:

Location area

Cell Name	The name of the cell for which this PSU has been defined.
Shelf ID	The name of the shelf for which this IFU has been defined. If the Shelf name is not defined, the Shelf's IP Address is used as the Shelf ID. Read-only.
PSU Number	Power Supply Unit's number. Read-only.
Settings area	
HW Revision	PSU hardware revision. Read-write.
Power Quality	Indicates the actual system power quality (**Tolerant, Intolerant**). Read-only.
Oper Status	Current card status (**Up, Down, Test**). Read-only.
Admin Status	Administrative status requested by NMS (**Enable**, **Disable**). Read-write.

From the *PSU Properties* dialog box, you can do the following:

- Examine PSU's configuration parameters.
- Edit PSU's configuration parameters.

Power Input Board (PIB) Management

Displaying PIB Properties

The *Power Input Board Properties* dialog box enables you to examine and configure parameters of the PIB.

To access PIB Properties:

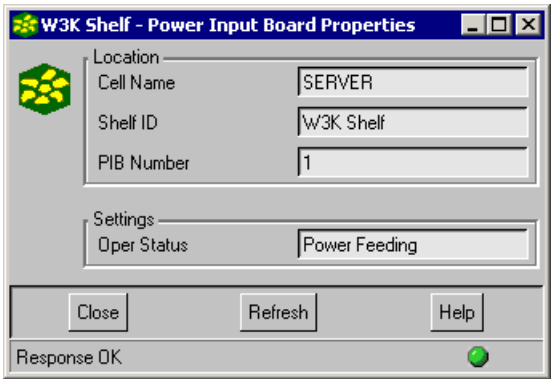
The *Power Input Board Properties* dialog box is accessed in one of following ways:

- Select **Power Input Board** from the *Chassis Element* menu in *Shelf View* and then select **PIB 1 Properties** or **PIB 2 Properties**.

- Select **Power Input Board** from the *Element* menu in *Sector View* and then select **PIB 1 Properties** or **PIB 2 Properties**.

The *Power Input Board Properties* dialog box for the selected PIB is displayed:

Figure 5-13: PIB Properties Dialog Box



The *Power Input Board Properties* dialog box displays the configuration parameters of the selected PIB unit.

The following parameters are displayed in the *Power Input Board Properties* dialog box:

Location area	
Cell Name	The name of the cell for which this PIB has been defined.
Shelf ID	The name of the shelf for which this PIB has been defined. If the Shelf name is not defined, the Shelf's IP Address is used as the Shelf ID. Read-only.
PIB Number	Power Input Board's number.
Settings area	
Oper Status	Indicates the operational state: **Power feeding**—Power feed by this board. **No Power**—Power is not present at this PIB. Read-only.

From the *Power Input Board Properties* dialog box, you can:

- Examine the PIB's configuration parameters.

Fan Management

Displaying Fan Edit properties

The *FAN Properties* dialog box enables you to examine and configure fan parameters.

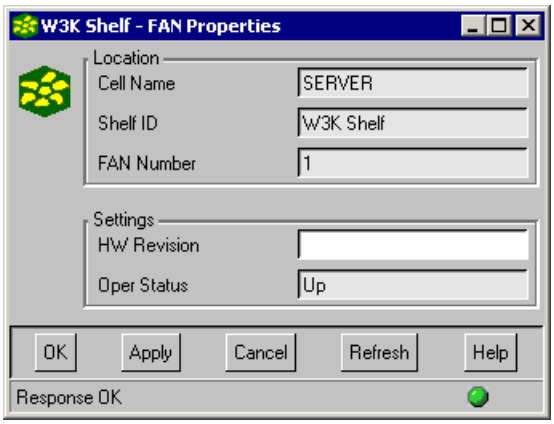
To access Fan Properties:

The *FAN Properties* dialog box is accessed in one of following ways:

- Select **Fan** from the *Chassis Element* menu in *Shelf View* and then select **FAN 1 Properties**, **FAN 2 Properties** or **FAN 3 Properties**.
- Select **Fan** from the *Element* menu in *Sector View* and then select **FAN 1 Properties**, **FAN 2 Properties** or **FAN 3 Properties**.

The *FAN Properties* dialog box for the selected Fan is displayed:

Figure 5-14: FAN Properties Dialog Box



The *FAN Properties* dialog box displays the configuration parameters of the selected fan unit.

The following parameters are displayed in the *FAN Properties* dialog box:

Location area	
Cell Name	The name of the cell for which this Fan has been defined. Read-only.
Shelf ID	The name of the shelf for which this Fan has been defined. If the Shelf name is not defined, the Shelf's IP Address is used as the Shelf ID. Read-only.
Fan Number	Power Input Board's number. Read-only
Settings area	
HW Revision	Fan hardware revision. Read-write.
Oper Status	Indicates the operational state: (**Up**, **Down**). Read-only.

From *Fan Edit Properties*, you can do the following:

- Examine the fan's configuration parameters.
- Edit the fan's configuration parameters.

6

Chapter 6 - Telecom Port Configuration

In This Chapter:

- "WALKair 1000 Interfaces Configuration Parameters" on page 6-2
- "WALKair 3000 Interfaces Configuration Parameters" on page 6-17

WALKair 1000 Interfaces Configuration Parameters

Each BS-BU and TS-BU in the WALKair system can have up to three telecom ports. WALKnet enables you to define the telecom port type and to configure its parameters for BS-BUs and registered TS-BUs. You can configure the telecom ports for a TS-BU before it is physically located in the WALKair system. Then, when the air link is established, the TS-BU receives all its configuration parameters from the BS-BU.

In the case of a mismatch between the configured and detected port types, WALKair transmits a Trap.

Below the list of ports in Base Station BU View and Terminal Station BU View is a graphical representation of the front panel of the BS-BU/TS-BU according to the configured port type. When there is a mismatch between the configured and detected port types, the graphical representation is still of the configured port type, but is inactive.

The LED indicators displayed in the graphical representation display the following status of the telecom interfaces:

- Int LED: Shows the operational status of the indoor equipment.
- Ext LED: Shows the air link status.
- Eth LED: Shows the operational status of the Ethernet interface (on the BS-BU only).

The colors of the LEDs indicate the following:

Green: Operational

Yellow: Minor Alarm

Red: Major Alarm

Additionally, the Int LED may be **Black**, indicating that the telecom card is not installed.

Changing the Configured Port Type

You can change the configured port type for a port on both BS-BUs and TS-BUs. Configuring services for a port (see Chapter 7, "System Services Configuration") is done according to the configured port type.

Note

You cannot define two 4 Mbps ports on the same device.

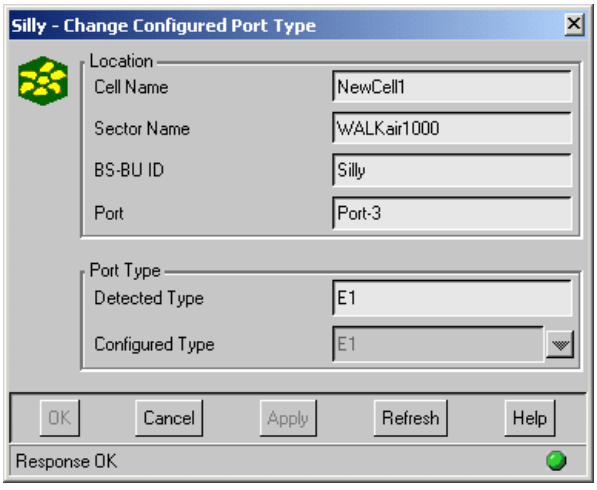
To change the configured port type:

1 In Base Station BU View or Terminal Station BU View, open the *Change Configured Port Type* dialog box in one of the following ways:

- ◇ Select a port in the **List of Ports** area, and select Change **Configured Type** from the *Port* menu.
- ◇ Right-click a port in the graphical representation of the BS-BU/TS-BU, and select **Change Configured Type** from the options displayed.

The Change Configured Port Type dialog box is displayed:

Figure 6-1: Change Configured Port Type Dialog Box



2 In the **Configured Type** field, select the required port type from the dropdown list. The available port types are as follows:

E1 **E1-FR** **E1-75/120Ω**	The port configuration parameters for these port types are described on page 6-6.
V.35 **X.21** **V.35-FR (2M)** **X.21-FR (2M)** **V.35-FR (4M)** **X.21-FR (4M)**	The port configuration parameters for these port types are described on page 6-8.
Ethernet	The port configuration parameters for this port type are described on page 6-10.
QBRI	The port configuration parameters for this port type are described page on page 6-13.
QPOTS	The port configuration parameters for this port type are described page page 6-14.

Note

A **QBRI** or a **QPOTS** port can only be configured on a TS-BU.

3 Click **OK**. In Base Station BU View or Terminal Station BU View, the new port type is displayed as the **Configured Type** for the selected port.

Note

You cannot change the configured port type for ports participating in services or for ports with the administrative status **Enable**.

Modifying Port Configuration Parameters

The configuration parameters for a port are viewed or modified from the *Port Configuration* dialog box. The configuration parameters for a port vary according to the port type. Access to the *Port Configuration* dialog box is the same regardless of port type.

To modify port configuration parameters:

1 In Base Station BU View or Terminal Station BU View, open the *Port Configuration* dialog box in one of the following ways:

- ◇ Select a port in the **List of Ports** area, and select **Edit Port** from the *Port* menu.
- ◇ Double-click a port in the **List of Ports** area.
- ◇ Right-click a port in the graphical representation of the BS BU/TS BU, and select **Edit Port** from the options displayed.

The *Port Configuration* dialog box for the selected port type is displayed.

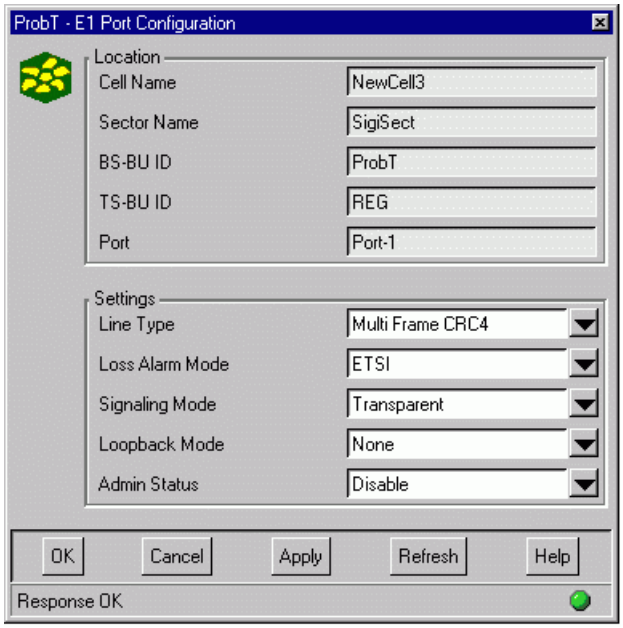
2 View or modify the configuration parameters in the Port Configuration dialog box, as required, and click OK.

The configuration parameters for the different port types are described in the following sections.

E1, E1-FR or E1-75/120Ω Telecom Port Configuration Parameters

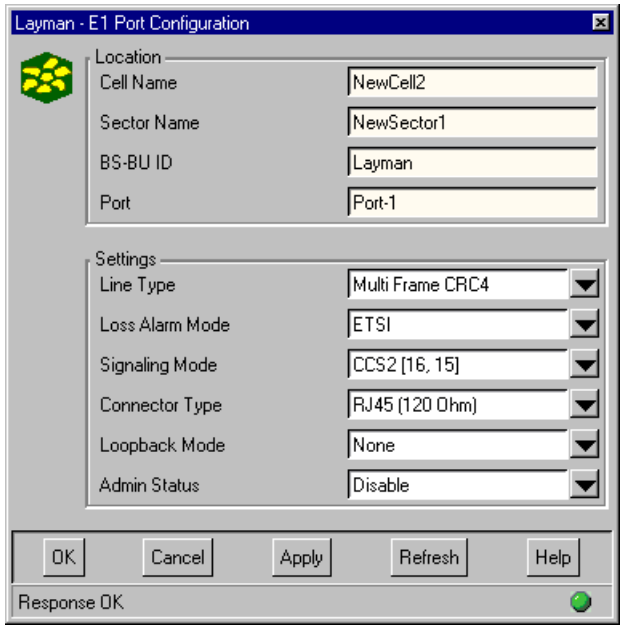
The *Port Configuration* dialog box for an E1 or E1-FR configured port type is shown below:

Figure 6-2: E1 or E1-FR Port Configuration Dialog Box



The *Port Configuration* dialog box for an E1-75/120Ω configured port type has an additional field (**Connector Type**), and is shown below:

Figure 6-3: E1-75/120Ω Port Configuration Dialog Box



The following are configuration parameters for an E1, E1-FR or E1 75/120Ω configured port type:

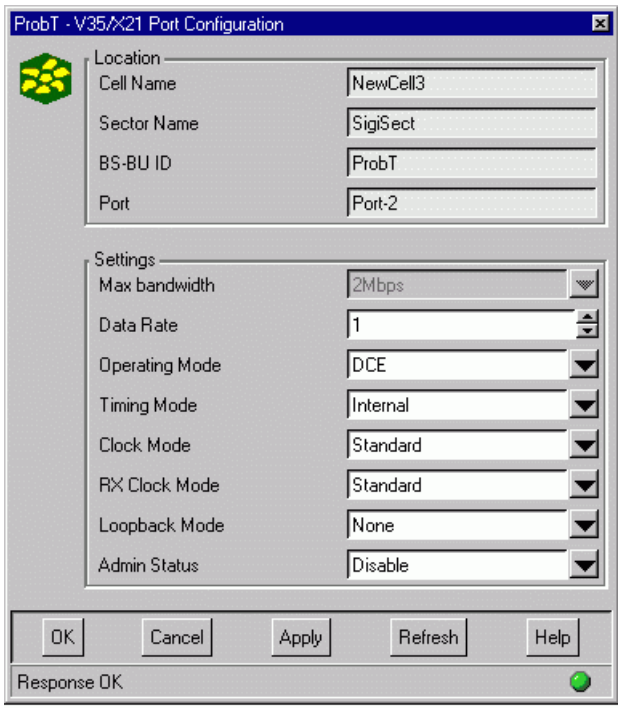
Location area	
Cell Name	The name of the cell for which this BS-BU/TS-BU has been defined.
Sector Name	The name of the sector for which this BS BU/TS BU has been defined.
BS-BU ID	The system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is defined in the *BS-BU Properties Edit* dialog box.
TS-BU ID (TS-BU ports only)	The system name if defined for the TS-BU or, when no system name is defined, the customer ID of the TS-BU. The system name is defined in the *Terminal Station BU Properties Edit* dialog box.
Port	The number of the port in the BS-BU/TS-BU.
Settings area	
Line Type	The type of the E1 line: **Unframed, Double Frame, Multi Frame CRC4** or **Multi Frame CRC4 (ext)**.
Loss Alarm Mode	The standards used for the LOSS alarm criteria: **ETSI** or **ITUT**.
Signaling Mode	The signaling mode. • For E1 port type: **Transparent**, **CCS** or **None**. • For E1-FR port type: **Transparent** or **None**. • For E1-75/120W port type: **Transparent**, **CCS** (channel 16 is used for signaling), **CCS2** (channels 15 and 16 are used for signaling), **CCS3** (channels 15, 16 and 31 are used for signaling) or **None**. A **Transparent** or **CCS** (Common Channel Signaling) signaling mode cannot be defined when the E1 **Line Type** is **Unframed**. **None** should only be selected when the E1 **Line Type** is **Unframed**.
Connector Type	For E1-75/120Ω port type only. The physical connection for the port: **BNC (75 Ohm)** or **RJ45 (120 Ohm)**.

Loopback Mode	Enables loopback testing for the following: **None**, **Remote**, **Local** or **Payload**.
Admin Status	Administrative status of the E1 port (**Enable, Disable**).

V.35 or X.21, V.35 FR or X.21 FR (2M or 4M) Telecom Port Configuration

The *Port Configuration* dialog box for a V.35, X.21, V.35 FR or X.21 FR (2M or 4M) configured port type is shown below:

Figure 6-4: V.35, X.21, V.35 FR or X.21 FR (2M or 4M) Port Configuration Dialog Box



The configuration parameters for a V.35, X.21, V.35-FR or X.21-FR (2M or 4M) configured port type are as follows:

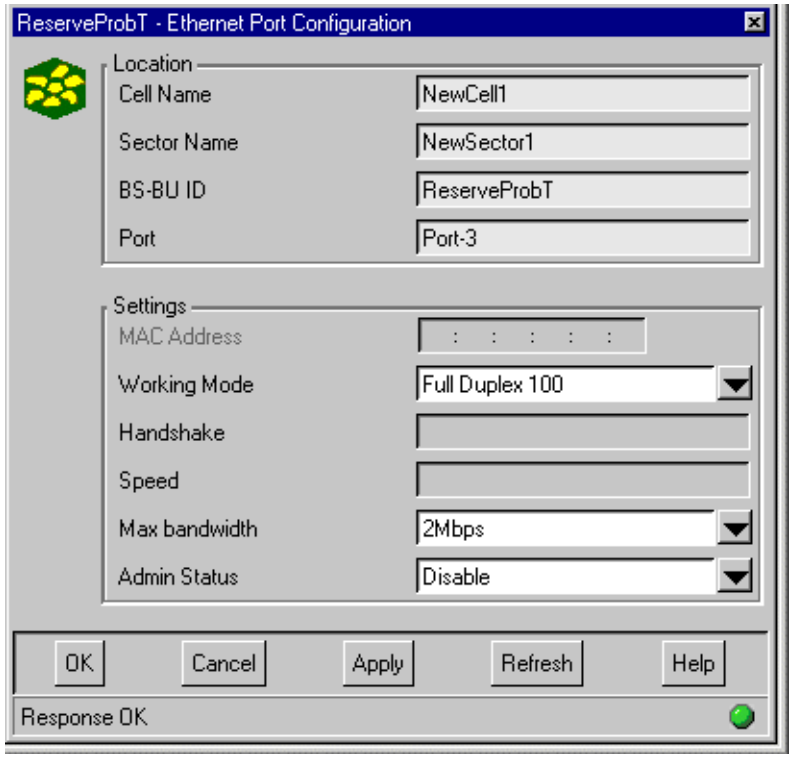
Location area	
Cell Name	The name of the cell for which this BS-BU/TS-BU has been defined.
Sector Name	The name of the sector for which this BS BU/TS BU has been defined.

BS-BU ID	The system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is defined in the *BS-BU Properties Edit* dialog box.
Port	The number of the port in the BS-BU/TS-BU.
Settings area	
Max Bandwidth	The appropriate maximum bandwidth up to 4 Mbs.
Data Rate	The line data rate in Time slots.
Operating Mode	The operating mode of the telecom card: **DTE** or **DCE**.
Timing Mode	The timing mode for the V.35, X.21 or FR port: **Internal** or **External**. The **Timing Mode** is forced to **Internal** when the **Operating Mode** is **DCE**, and **External** when the **Operating Mode** is **DTE**.
Clock Mode	The polarity of the clock: **Standard** or **Inverse**.
RX Clock Mode	The polarity of the receive clock: **Standard** or **Inverse**.
Loopback Mode	Enables loopback testing for the following: **None**, **Remote**, **Local** or **Payload**.
Admin Status	Administrative status of the V.35, X.21 or FR port (**Enable, Disable**).

Ethernet Port Configuration Parameters

The *Port Configuration* dialog box for an Ethernet configured port type is shown below:

Figure 6-5: Ethernet Port Configuration Dialog Box



The following are configuration parameters for an Ethernet configured port type:

Location area	
Cell Name	The name of the cell for which this BS-BU/TS-BU has been defined.
Sector Name	The name of the sector for which this BS BU/TS BU has been defined.
BS-BU ID	The system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is defined in the *BS-BU Properties Edit* dialog box.

TS-BU ID	The system name if defined for the TS-BU or, when no system name is defined, the customer ID of the TS-BU. The system name is defined in the *Terminal Station BU Properties Edit* dialog box.
Port	The number of the port in the BS-BU/TS-BU.
Settings area	
MAC Address	The MAC address of the Ethernet Card. This field is read-only and is valid only if an Ethernet card is installed (i.e. the detected port type is Ethernet).
Working Mode	The handshake value and speed. The four options are: **Half Duplex 10**, **Half Duplex 100**, **Full Duplex 10** and **Full Duplex 100**. The working Mode is valid only if an Ethernet card is installed.
Handshake	The handshake value: **Half Duplex** or **Full Duplex**. This field is read-only and is valid only if an Ethernet card is actually installed, meaning the detected port type is Ethernet. If an Ethernet card is not installed, the value is **None**.
Speed	The speed of the interface: **10 Mbps** or **100 Mbps**. This field is read-only and is valid only if an Ethernet card is actually installed, meaning the detected port type is Ethernet. If an Ethernet card is not installed, the value is **None**.
Max Bandwidth	The maximum amount of bandwidth for this port: **4 Mbps** or **2 Mbps**. This parameter is only present when configuring an Ethernet port on a BS-BU.
Admin Status	Administrative status of the Ethernet port (**Enable, Disable**).

ARP/LAN Table

You can view the ARP/LAN table for a selected Ethernet card and VLAN.

To view the ARP/LAN table:

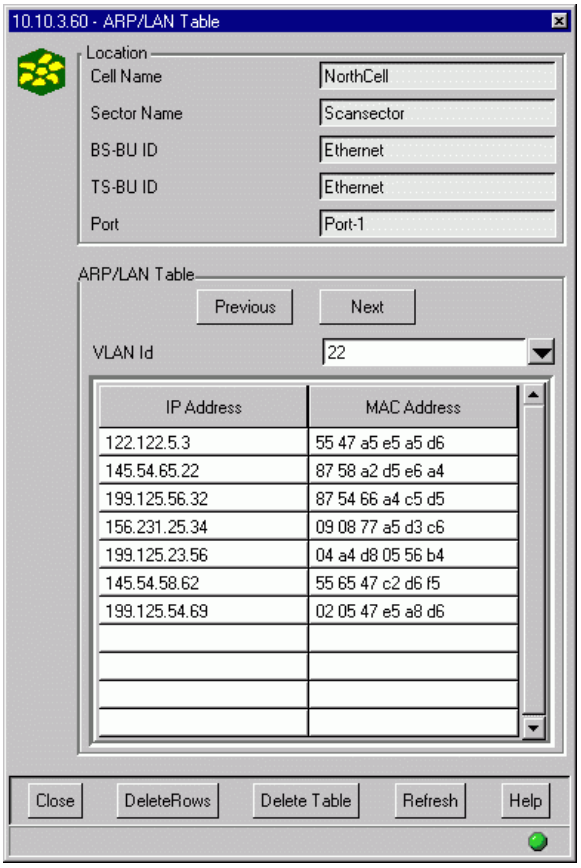
1 In Base Station BU View or Terminal Station BU View, open the *ArpTable* dialog box in one of the following ways:

◇ Select an Ethernet port, and select **ARP/LAN Table** from the *Port* menu.

◇ Right-click an Ethernet port in the graphical representation of the BS-BU/TS-BU, and select **ARP/LAN Table** from the options displayed.

The *ARP/LANTable* dialog box is displayed:

Figure 6-6: ARP/LAN Table Dialog Box



2 In the **VLAN Id** field, select the required VLAN. The IP addresses and MAC addresses for the selected VLAN are displayed.

From the ARP/LAN Table, you can do the following:

◇ Click **Previous** and **Next** to scroll through the VLANs and display the corresponding IP and MAC addresses.

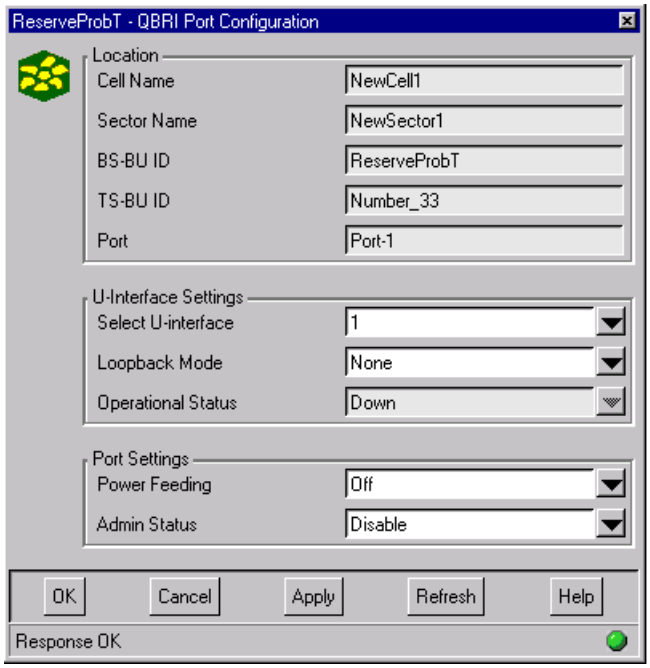
◇ Select a row in the ArpTable and click **Delete Rows** to delete the selected row from the table.

◇ Click **Delete Table** to delete the entire displayed ARP/LAN Table.

QBRI Port Configuration Parameters

The QBRI port can only be configured on a TS-BU. The Port *Configuration* dialog box for a QBRI configured port type is shown below:

Figure 6-7: QBRI Port Configuration Dialog Box



The following configuration parameters are for a QBRI configured port type:

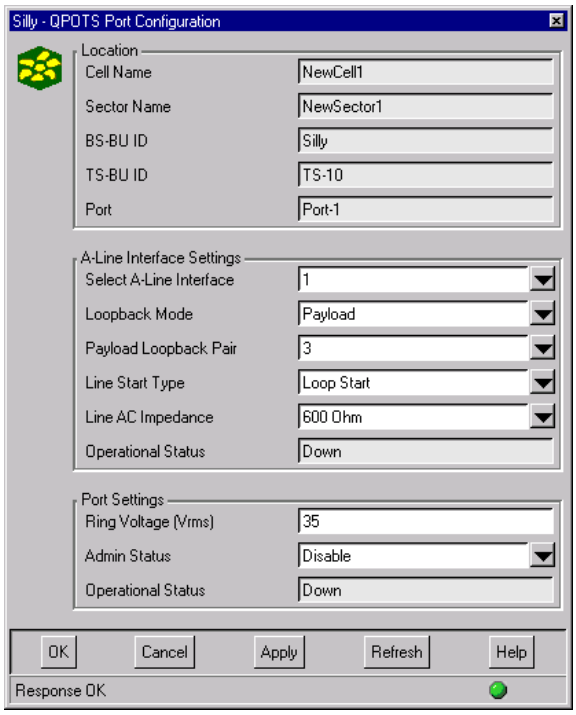
Location area	
Cell Name	The name of the cell for which this BS-BU/TS-BU has been defined.
Sector Name	The name of the sector for which this BS BU/TS BU has been defined.
BS-BU ID	The system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is defined in the *BS-BU Properties Edit* dialog box.
TS-BU ID	The system name if defined for the TS-BU or, when no system name is defined, the customer ID of the TS-BU. The system name is defined in the *Terminal Station BU Properties Edit* dialog box.
Port	The number of the port in the BS-BU/TS-BU.

U-Interface Settings area (parameters set per line interface)	
Select U-interface	The U-interface: **1**, **2**, **3** or **4**. If **Loopback Mode** will be set (see below), select the required line interface (1, 2, 3 or 4), and then specify the required parameter.
Loopback Mode	Optional - Enables loopback testing for the following: **None**, **Remote**, **Local**, **Payload** or **Repeater.**
Operational Status	The operational status of the QBRI port: This is a read only parameter: **Up**, **Down** or **Testing**.
QBRI Ports Settings area (parameters set per port)	
Power Feeding	The power feeding of the QBRI port: **On** or **Off**. If you change this field, the following warning is displayed: "This change may disturb any service on U-Interface." NOTE: The Power Feeding parameter can only be changed if Admin Status is set to **Disable** (see below).
Admin Status	The administrative status of the QBRI port: **Enable** or **Disable**.

QPOTS Port Configuration Parameters

The QPOTS port can only be configured on a TS-BU. The *Port Configuration* dialog box for a QPOTS configured port type is shown below:

Figure 6-8: QPOTS Port Configuration Dialog Box



The following configuration parameters are for a QPOTS configured port type:

Location area	
Cell Name	The name of the cell for which this BS-BU/TS-BU has been defined.
Sector Name	The name of the sector for which this BS BU/TS BU has been defined.
BS-BU ID	The system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is defined in the *BS-BU Properties Edit* dialog box.
TS-BU ID	The system name if defined for the TS-BU or, when no system name is defined, the customer ID of the TS-BU. The system name is defined in the *Terminal Station BU Properties Edit* dialog box.
Port	The number of the port in the BS-BU/TS-BU.
A-Line Interface Settings area (parameters set per line interface)	

Select A-Line interface	Mandatory—The A-interface: **1**, **2**, **3** or **4**. Select **1** and specify the **Line Start Type** and **Line AC Impedance**, and then select **2** and specify the **Line Start Type**, **Line** and **AC Impedance**, and so on.
Loopback Mode	Optional—Enables loopback testing for the following: **None**, **Local** or **XPayload**. If the mode is specified is **XPayload**, then a second member line interface must be selected under **XPayload Loopback Pair** (see below).
XPayload Loopback Pair	Optional—If **Loopback Mode** (see above) was set to **XPayload**, then the second member of the line interface pair must be selected.
Line Start Type	Mandatory—Enables the following Line Start options: **Loop Start** or **Ground Start**. This parameter should be specified for each A-interface.
Line AC Impedance	Mandatory—Enables the selection of one of the following impedances for an A-interface: 600Ω, 900Ω, 600Ω 216µF, 900Ω 216µF, 270-750Ω 150µF, 220-820Ω 120µF, 220-820Ω 115µF, 370-620Ω 310µF, This parameter must be specified for each A-interface.
Operational Status	The operational status of the line interface: The status can be **Up**, **Down** or **Testing**, reflecting the readiness of the line to provide a service. This parameter is grayed and cannot be changed.
Port Settings area (parameters set per port)	
Ring Voltage (Vrms)	Mandatory—Enables the user to enter a value for the Ring Voltage between 20 Vrms and 60Vrms. NOTE: the Ring Voltage can only be changed if the Admin Status is set to Disable (see below).
Admin Status	The administrative status of the QPOTS port: **Enable** or **Disable**.
Operational Status	The operational status of the QPOTS card: The status can be **Up**, **Down** or **Testing**, reflecting the readiness of the port to provide a service. This parameter is grayed (read only) and cannot be changed.

WALKair 3000 Interfaces Configuration Parameters

The configuration parameters for a port are viewed or modified from the *Port Configuration* dialog box. The configuration parameters for a port vary according to the port type.

W3000 BS-BU Interfaces Configuration

This section includes:

- "W3000 BS-BU Ethernet Port Configuration" on page 6-18
- "W3000 E1 Ports Configuration for a Stand-Alone BS-BU" on page 6-21
- "W3000 ATM NIU STM-1 Ports Configuration on a Shelf" on page 6-23
- "W3000 BS-BU 12 x E1 NIU Ports Configuration on a Shelf" on page 6-28
- "W3000 BS-BU E3 NIU Ports Configuration on a Shelf" on page 6-31

W3000 BS-BU Ethernet Port Configuration

Both **W3000 Shelf** and **W3000 Stand-Alone BS-BU** support the Ethernet port interface.

To configure the Ethernet port on a W3000 BS-BU:

In BS-BU View, open the *BS-BU Ethernet Port Configuration* dialog box in one of the following ways:

- Double-click a line in the port configuration table, located at the bottom of the screen.
- Select a line in the port configuration table, located at the bottom of the screen, and then select **Edit Port** from the *Port* menu.

The *W3000 BS-BU Ethernet Port Configuration* dialog box is displayed as shown below, for a Shelf BS-BU Ethernet Port, and for a Stand-Alone BS-BU Ethernet Port:

Figure 6-9: W3000 Shelf BS-BU Ethernet Port Configuration

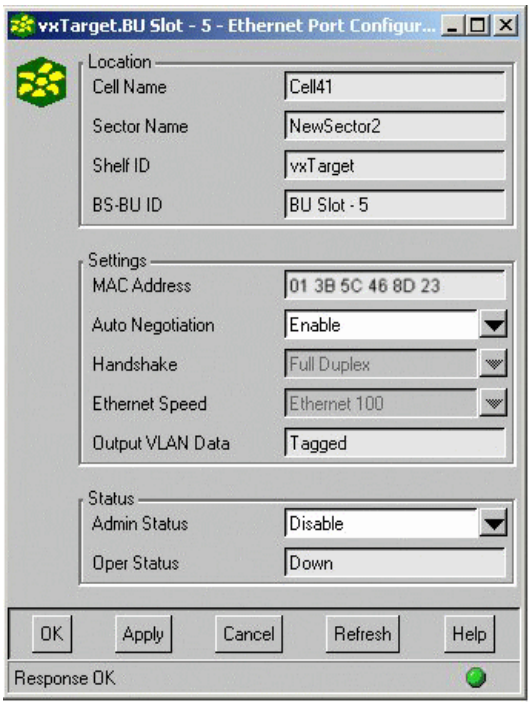
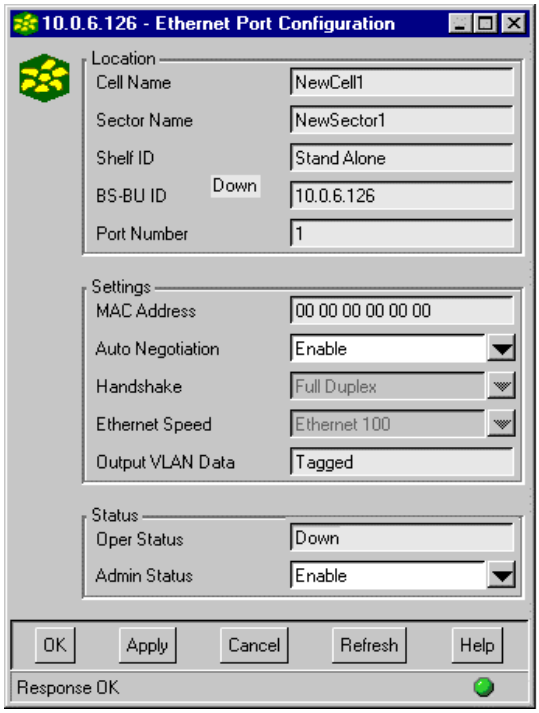


Figure 6-10: W3000 Stand-Alone BS-BU Ethernet Port Configuration



The following parameters are displayed in the *W3000 BS-BU Ethernet Port Configuration* dialog box:

Location area	
Cell Name	The name of the cell for which this W3000BS-BU has been defined.
Sector Name	The name of the sector for which this W3000 BS-BU has been defined.
Shelf ID	**Shelf:** The name of the Shelf for which this W3000 BS-BU has been defined. If a Shelf name is not defined, the Shelf's IP address is used as the Shelf ID. **Stand-Alone BS-BU:** The name for which this W3000 BS-BU has been defined.
BS-BU ID	**Shelf:** The system name if defined for the W3000 BS-BU or, when no system name is defined, the slot number of the W3000 BS-BU. **Stand-Alone BS-BU:** The system name if defined for the W3000 BS-BU or, when no system name is defined, the IP Address.

Settings area	
MAC Address	The MAC address of the Ethernet card. This field is read-only.
Auto Negotiation	Two values: **Enable** or **Disable**. When **Enable** is selected, the system automatically senses whether the communication is Full or Half Duplex (Handshake) and whether the Ethernet speed is 10 or 100 Mbps. When **Disable** is selected, the user can select the Handshake and Ethernet Speed manually (see *Handshake* and *Ethernet Speed* below.
Handshake	The handshake value: **Half Duplex**, **Full Duplex** or **None**. This field is read only if *Auto Negotiation* is set to **Enable** (see above).
Ethernet Speed	The Ethernet interface detected speed: **None**, **Ethernet 10** or **Ethernet 100**. This field is read only if *Auto Negotiation* is set to **Enable** (see above).
Output VLAN Data	Indicates whether the user's LAN is working with a VLAN: This value (**Tagged**) is read only. This parameter defines whether the VLAN tag should send in IP packets.
Status area	
Oper Status	The operational status of the telecom interface: **Up** or **Down**. This field is read-only.
Port Admin Status	The administrative status of the telecom interface: **Enable** or **Disable**.

From the *W3000 BS-BU Ethernet Port Configuration* dialog box, you can do the following:

- Examine the configuration of an onboard Ethernet port.
- Set the Ethernet port administrative status.
- Set the Handshake (Full or Half Duplex) and the Ethernet Speed (10 or 100 Mbps).

W3000 E1 Ports Configuration for a Stand-Alone BS-BU

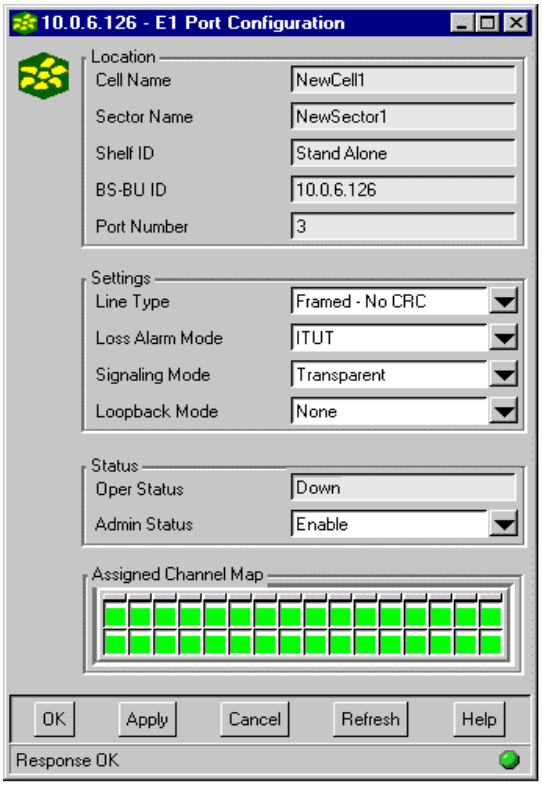
The W3000 Stand-Alone BS-BU supports the E1 port interface.

To configure the E1 port on a W3000 Stand-Alone BS-BU:

1 In BS-BU View, open the *BS-E1 Port Configuration* dialog box in one of the following ways:

- ◇ Double-click a line in the port configuration table, located at the bottom of the screen.
- ◇ Select a line in the port configuration table, located at the bottom of the screen, and then select **Edit Port** from the *Port* menu, to display the *W3000 BS-BU E1 Port Configuration* dialog box:

Figure 6-11: W3000 Stand-Alone BS-BU E1 Port Configuration



The following parameters are displayed in the *W3000 BS-BU E1 Port Configuration* dialog box:

Location area	
Cell Name	The name of the cell for which this BS has been defined.
Sector Name	The name of the sector for which this BS has been defined.
Shelf ID	The name for the Stand-Alone BS-BU
BS-BU ID	The system name if defined for the W3000 Stand-Alone BS-BU or, when no system name is defined, the IP Address of the W3000 BS-BU.
Port Number	Ports 1-10 are occupied by Ethernet/E1 interfaces on a Stand-Alone BS-BU. The port number for the Ethernet card appears in the field.
Settings area	
Line Type	The E1 interface framing format: **Unframed**, **Framed-No CRC, Framed-CRC4**, **Framed-CRC4 (Ext)**
Loss Alarm Mode	The E1 loss alarm mode: **ITUT** or **ETSI**. The standard used for loss alarm criteria.
Signaling Mode	The E1 signaling mode: **Transparent**, **CCS** or **None**.
Loopback mode	The type of the loopback applied to the E1 telecom interface: **None**, **Remote**, **Local**, **Payload** or **Other**.
Status area	
Oper Status	The operational status of the E1interface: **Up** or **Down**. Read-only.
Port Admin Status	The administrative status of the telecom interface: **Enabled** or **Disabled**.

W3000 ATM NIU STM-1 Ports Configuration on a Shelf

STM1 port parameters can be only accessed on the **ATM-NIU STM1** card. The STM1 port is configured using the *STM1 Port Properties* dialog box.

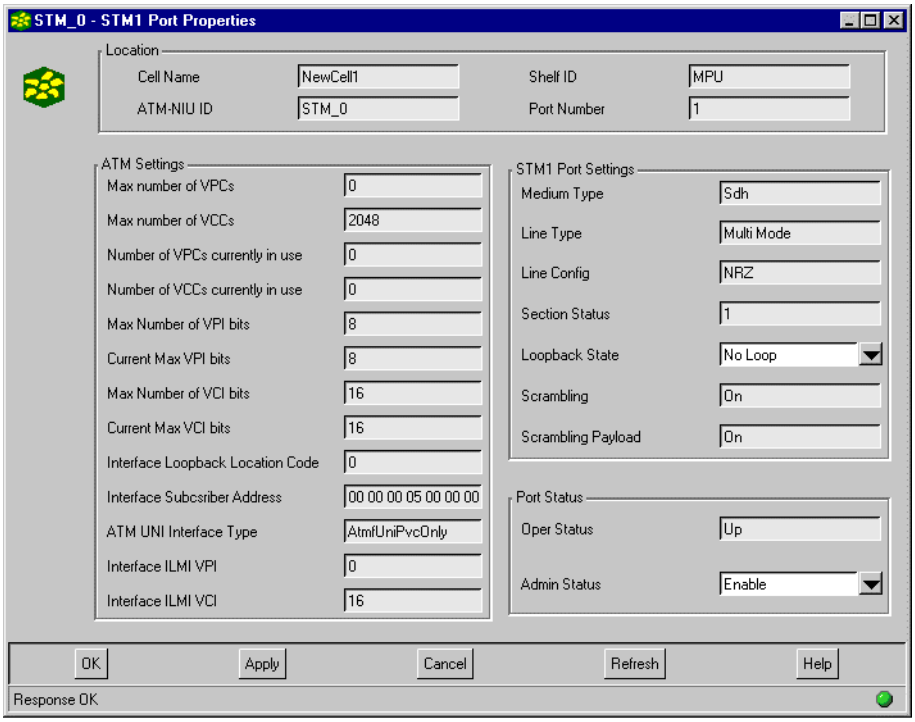
To configure Shelf ATM NIU STM1 ports:

In ATM NIU View, open the *STM1 Port Properties* dialog box in one of the following ways:

- In the Interface Table, double-click the STM1 port you want to configure.
- In the Interface Table, select the STM1 port you want to configure, and then select Edit Port from the Port menu.

The *STM1 Port Properties* dialog box is displayed:

Figure 6-12: Shelf ATM NIU STM1 Port Properties Dialog Box



ATM Configuration Parameters

The following parameters are displayed in the STM1 Port Properties dialog box:

Location area	
Cell Name	The name of the cell for which this ATM-NIU has been defined.
Shelf ID	The name of the Shelf for which this ATM-NIU has been defined. If a Shelf name is not defined, the Shelf's IP address is used as the Shelf ID.
ATM-NIU ID	The system name if defined for the ATM-NIU or, when no system name is defined, the slot number of the ATM-NIU.
Port Number	The number of the onboard port.
ATM Settings area	
Max Number of VPCs	The maximum number of VPCs (PVPCs and SVPCs) supported by this ATM interface. At the ATM UNI, the maximum number of VPCs (PVPCs and SVPCs) ranges from 0 to 256 only.
Max Number of VCCs	The maximum number of VCCs (PVCCs and SVCCs) supported by this ATM interface.
Number of VPCs currently in use	The number of VPCs (PVPC, Soft PVPC and SVPC) currently in use at this ATM interface. This includes the number of PVPCs and Soft PVPCs configured at the interface, plus the number of SVPCs currently established at the interface. At the ATM UNI, the configured number of VPCs (PVPCs and SVPCs) can range from 0 to 256 only. Read-only.
Number of VCCs currently in use	The number of VCCs (PVCC, Soft PVCC and SVCC) currently in use at this ATM interface. This includes the number of PVCCs and Soft PVCCs configured at the interface, plus the number of SVCCs currently established at the interface. Read-only.
Max Number of VPI bits	The maximum number of active VPI bits configured for use at the ATM interface. At the ATM UNI, the maximum number of active VPI bits configured for use ranges from 0 to 8 only. Read-only.

Current Max VPI bits	The maximum number of VPI Bits that may currently be used at this ATM interface. The value is the minimum Max Active VPI bits for this interface and of the interface's UNI peer. Read-only.
Max Number of VCI bits	The maximum number of active VCI bits configured for use at this ATM interface. Read-only.
Current Max VCI bits	The maximum number of VCI Bits that may currently be used at this ATM interface. The value is the minimum Max Active VCI bits for this interface and for the interface's UNI peer. Read-only.
ATM Address Type	The type of primary ATM address configured for use at this ATM interface: **private, nsapE164, nativeE164** or **other**. Read-only.
Interface Loopback Location Code	Specifies the code for incoming OAM Loopback cells that are to be looped back at this interface. A value of zero indicates that the management system has not set any loopback location code for this interface
ATM Admin Address	The primary address assigned for administrative purposes, for example, an address associated with the service provider side of a public network UNI (thus, the value of this address corresponds with the value of **ifPhysAddress** at the host side). If this interface has no assigned administrative address, or when the address used for administrative purposes is the same as that used for **ifPhysAddress**, then this is an octet string of zero length. Read-only.
Interface Subscriber Address	The identifier assigned by a service provider to the network side of a public network UNI. If this interface has no assigned service provider address, this is an octet string of zero length. The Address length implies the address type: no address (0 octets), E.164 (8 octets) or NSAP (20 octets). When subaddresses are used, the address may represent concatenation of address and subaddress: E.164_E.164 (16 octets), E.164_NSAP (28 octets) or NSAP_NSAP (40 octets). Other address lengths imply address types defined elsewhere.
ATM UNI Interface Type	Specifies the type of ATM cell layer interface defined on the physical path termination point modeled by this entry in the interface table: **None, uni, bici** or **bissi**. The default value of this field is **None**.

Interface ILMI VPI	The VPI value of the VCC supporting the ILMI at this ATM interface. If both ILMI VPI and ILMI VCI equal to zero, then ILMI is not supported at this interface. Default=0.
Interface ILMI VCI	The VCI value of the VCC supporting the ILMI at this ATM interface. If both ILMI VPI and ILMI VCI equal to zero, then ILMI is not supported at this interface. Default=16.
STM1 Port Settings area	
Medium Type	Whether a SONET or a SDH signal is used across this interface: **sonet** or **sdh**.
Line Type	The line type for this interface. The line types are **Short** and **Long** Range Single Mode fiber or **Multi-Mode** fiber interfaces, and **Coax** and **UTP** for electrical interfaces. The value **Other** is used when the **Line Type** is not one of the listed values. Read-only.
Line Coding	This variable describes the line coding for this interface: **B3ZS, CMI, NRZ, RZ** or **Other**. The **B3ZS** and **CMI** are used for electrical SONET/SDH signals (STS-1 and STS-3). The **Non-Return to Zero** (NRZ) and the **Return to Zero** are used for optical SONET/SDH signals. Read-only.
Section Status	This variable indicates the status of the interface and is a bit map represented as a sum; therefore, it can represent multiple defects simultaneously. The various bit positions are: **SectionNoDefect, SectionLOS**, and **SectionLOF**. Read-only.
Loopback State	The current loopback state of the SONET/SDH interface. The possible values are follows: **NoLoop**: Not in the loopback state. A device that is incapable of performing a loopback on this interface always returns this value. **FacilityLoop**: The received signal at this interface is looped back out through the corresponding transmitter in the return direction. **TerminalLoop**: The signal about to be transmitted is connected to the associated incoming receiver. **OtherLoop**: Loopbacks that are not defined here.
Scrambling	Determines whether scrambling is performed at the SDH/SONET. Options are **On** or **Off**. Read-only.

Scrambling Payload	Determines whether scrambling of cell payload is performed. Options are **On** or **Off**. Read-only.
Status area	
Oper Status	The operational status of the telecom interface: Options are **Up** or **Down**. Read-only.
Port Admin Status	The administrative status of the telecom interface: **Enabled** or **Disabled**.

From the *STM1 Port Properties* dialog box, you can do the following:

- Configure the parameters of an onboard STM1 port.
- Set the STM1 port administrative status.

W3000 BS-BU 12 x E1 NIU Ports Configuration on a Shelf

12xE1 NIU port parameters can be only accessed on the 12xE1 NIU card. The E1 port is configured using the *12xE1 NIU Port Properties* dialog box.

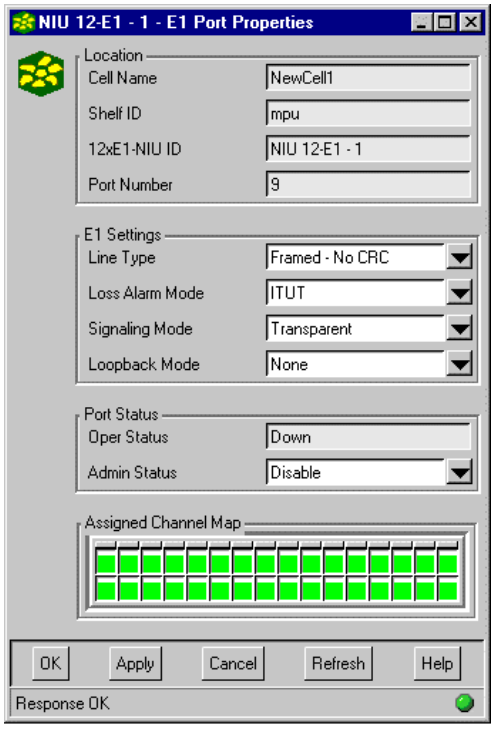
To configure an E1 port:

In 12xE1 NIU View, open the *NIU 12xE1 Port Properties* dialog box in one of the following ways:

- In the Interface Table, double-click the E1 port you want to configure.
- In the Interface Table, select the E1 port you want to configure, and then select Edit Port from the Port menu.

The *E1 Port Properties* dialog box is displayed:

Figure 6-13: Shelf BS-BU 12 x E1 Port Properties Dialog Box



12 x E1 Configuation Parameters

The following parameters are displayed in the 12 x E1 Port Properties dialog box.

Location area	
Cell Name	The name of the cell for which this BS has been defined.
Shelf ID	The name of the Shelf for which this TS has been defined. If a Shelf name is not defined, the Shelf's IP address is used as the Shelf ID.
12xE1 NIU ID	The system name if defined for the W3000 12xE1 NIU or, when no system name is defined, the customer ID of the 12xE1 NIU.
Port Number	The number of the 12xE1 NIU onboard port.
Settings area	
Line Type	The E1 interface framing formats: **--Unframed** **--Framed - No CRC** **--Framed - CRC4** **--Framed- CRC4 (Ext)**
Loss Alarm Mode	The E1 loss alarm mode: **ITUT** or **ETSI**. The standard used for loss alarm criteria.
Signaling Mode	The E1 signaling mode: **Transparent** or **None**.
Loopback mode	The type of the loopback applied to the E1 telecom interface: **None, Remote, Local, Payload** or **Other**.

Note
Line Type and Signaling mode must have the same format on a TS that communicates with the E1 x 12 NIU.

Status area	
Oper Status	The operational status of the E1 interface: **Up** or **Down**. Read-only.
Port Admin Status	The administrative status of the E1 interface: **Enabled** or **Disabled**.

From the 12xE1 NIU *E1 Port Configuration* dialog box, you can do the following:

- Configure the parameters of an onboard E1 port.
- Set the E1 port administrative status

W3000 BS-BU E3 NIU Ports Configuration on a Shelf

E3 port parameters can be only accessed on the **ATM-NIU E3** card. The E3 port is configured using the *E3 Port Properties* dialog box.

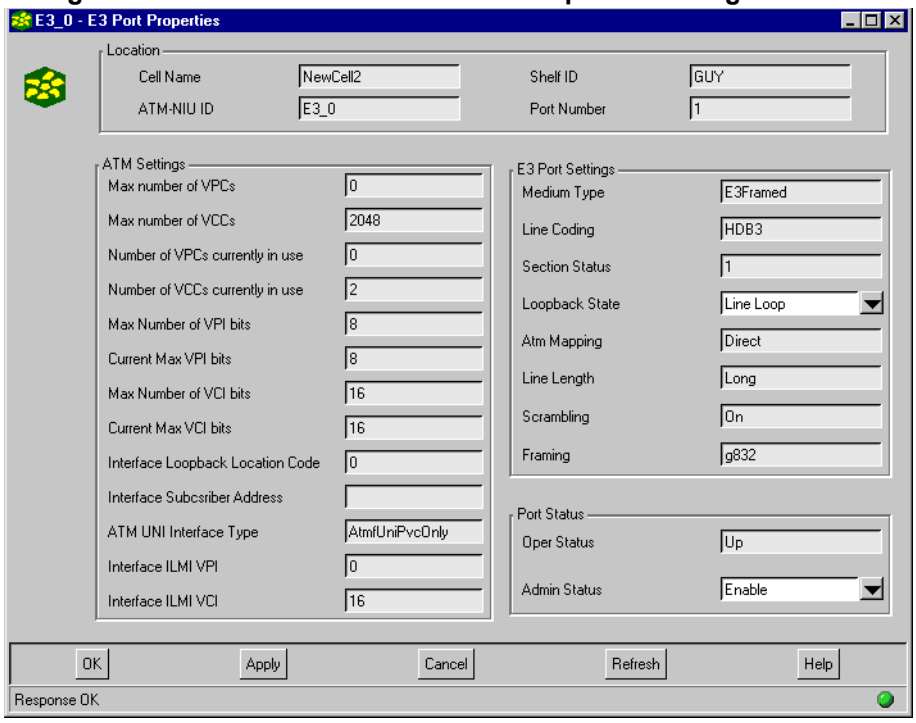
To configure an E3 port:

In ATM NIU View, open the *E3 Port Properties* dialog box in one of the following ways:

- In the Interface Table, double-click the E3 port you want to configure.
- In the Interface Table, select the E3 port you want to configure, and then select **Edit Port** from the *Port* menu.

The *E3 Port Properties* dialog box is displayed:

Figure 6-14: Shelf BS-BU NIU E3 Port Properties Dialog Box



E3 NIU Configuration Parameters

The following parameters are displayed in the *E3 Port Properties* dialog box:

Location area	
Cell Name	The name of the cell for which this ATM-NIU has been defined.
Shelf ID	The name of the Shelf for which this ATM-NIU has been defined. If a Shelf name is not defined, the Shelf's IP address is used as the Shelf ID.
ATM-NIU ID	The system name if defined for the ATM-NIU or, when no system name is defined, the slot number of the ATM-NIU.
Port Number	The number of the onboard port.
ATM Settings area	
Max Number of VPCs	The maximum number of VPCs (PVPCs and SVPCs) supported by this ATM interface. At the ATM UNI, the maximum number of VPCs (PVPCs and SVPCs) ranges from 0 to 256 only.
Max Number of VCCs	The maximum number of VCCs (PVCCs and SVCCs) supported by this ATM interface.
Number of VPCs currently in use	The number of VPCs (PVPC, Soft PVPC and SVPC) currently in use at this ATM interface. It includes the number of PVPCs and Soft PVPCs configured at the interface, plus the number of SVPCs currently established at the interface. At the ATM UNI, the configured number of VPCs (PVPCs and SVPCs) can range from 0 to 256 only. Read-only.
Number of VCCs currently in use	The number of VCCs (PVCC, Soft PVCC and SVCC) currently in use at this ATM interface. This includes the number of PVCCs and Soft PVCCs that are configured at the interface, plus the number of SVCCs that are currently established at the interface. Read-only.
Max Number of VPI bits	The maximum number of active VPI bits configured for use at the ATM interface. At the ATM UNI, the maximum number of active VPI bits configured for use ranges from 0 to 8 only.

Current Max VPI bits	The maximum number of VPI Bits that may currently be used at this ATM interface. The value is the minimum Max Active VPI bits for this interface and of the interface's UNI peer. Read-only.
Max Number of VCI bits	The maximum number of active VCI bits configured for use at this ATM interface.
Current Max VCI bits	The maximum number of VCI Bits that may currently be used at this ATM interface. The value is the minimum Max Active VCI bits for this interface and of the interface's UNI peer. Read-only.
ATM Address Type	The type of primary ATM address configured for use at this ATM interface: **private, nsapE164, nativeE164** or **other**. Read-only.
Interface Loopback Location Code	Specifies the code for incoming OAM Loopback cells that are to be looped back at this interface. A value of zero indicates that the management system has not set any loopback location code for this interface
Interface Subscriber Address	The identifier assigned by a service provider to the network side of a public network UNI. If this interface has no assigned service provider address, this is an octet string of zero length. The Address length implies the address type: no address (0 octets), E.164 (8 octets) or NSAP (20 octets). When subaddresses are used, the address may represent concatenation of address and subaddress: E.164_E.164 (16 octets), E.164_NSAP (28 octets) or NSAP_NSAP (40 octets). Other address lengths imply address types defined elsewhere.
ATM Admin Address	The primary address assigned for administrative purposes, for example, an address associated with the service provider side of a public network UNI (thus, the value of this address corresponds with the value of **ifPhysAddress** at the host side). If this interface has no assigned administrative address, or when the address used for administrative purposes is the same as that used for **ifPhysAddress**, then this is an octet string of zero length. Read-only.

ATM UNI Interface Type	Specifies the type of ATM cell layer interface defined on the physical path termination point modeled by this entry in the interface table: **None, uni, bici** or **bissi**. The default value of this field is **None**.
E3 Port Settings area	
Medium Type	The variety of DS3 C-bit or E3 application implementing this interface. The type of interface affects the interpretation of the usage and error statistics. The rate of DS3 is 44.736 Mbps and E3 is 34.368 Mbps. The dsx3ClearChannel value means that the C-bits are not used except for sending/receiving AIS. The values, in sequence, describe: **dsx3M23** ANSI T1.107-1988 [9] **dsx3SYNTRAN** ANSI T1.107-1988 [9] **dsx3CbitParity** ANSI T1.107a-1990 [9a] **dsx3ClearChannel** ANSI T1.102-1987 [8] **e3Framed** CCITT G.751 [12] **e3Plcp** ETSI T/NA(91)18 [13]. Read-only.
Line Coding	The line coding for this interface: **B3ZS, CMI, NRZ, RZB** or **Other**. The **B3ZS** and **CMI** are used for electrical SONET/SDH signals (STS-1 and STS-3). The **Non-Return to Zero** (NRZ) and the **Return to Zero** are used for optical SONET/SDH signals. Read-only.

Section Status	The line status of the interface. This contains loopback state information and failure state information. The dsx3LineStatus is a bitmap represented as a sum; therefore, it can represent multiple failures and a loopback (see dsx3LoopbackConfig object for the type of loopback) simultaneously. The dsx3NoAlarm must be set if (and only if) no other flag is set. If the dsx3loopbackState bit is set, the loopback in effect determined from the dsx3loopbackConfig object. The various bit positions are: **NoAlarm:** No alarm present **RcvRAIFailure:** Receiving Yellow/Remote Alarm Indication **XmitRAIAlarm:** Transmitting Yellow/Remote Alarm Indication **RcvAIS:** Receiving AIS failure state **XmitAIS:** Transmitting AIS **LOF:** Receiving LOF failure state **LOS:** Receiving LOS failure state **LoopbackState:** Looping the received signal **RcvTestCode:** Receiving a Test Pattern **OtherFailure:** Any line status not defined here **UnavailSigState:** Near End in Unavailable Signal State **NetEquipOOS:** Carrier Equipment Out of Service
Loopback State	The current loopback state of the SONET/SDH interface. The values mean: **NoLoop:** Not in the loopback state. A device that is incapable of performing a loopback on this interface will always return this value. **FacilityLoop:** The received signal at this interface is looped back out through the corresponding transmitter in the return direction. **TerminalLoop:** The signal to be transmitted is connected to the associated incoming receiver. **OtherLoop:** Loopbacks that are not defined here.
ATM Mapping	Describes the way the ATM cells are mapped into the E3 frame. Options are **PLCP** or **Direct mapping**.
Line Length	Describes the length of the E3 line (coax) - Options are **Short** or **Long**.

Scrambling	Determines whether scrambling is performed at the E3. Options are **On** or **Off**.
Framing	Determines the framing used - options are **G.751** or **G.832**.
Status area	
Oper Status	The operational status of the telecom interface: **Up** or **Down**. Read-only.
Port Admin Status	The administrative status of the telecom interface: **Enable** or **Disable**.

From the *E3 Port Properties* dialog box, you can do the following:

- Configure the parameters of an onboard E3 port.
- Set the E3 port administrative status.

W3000 TS-BU Interfaces Configuration

There are two available interfaces on a WALKair 3000 Terminal Station: *Ethernet* and *E1*. They are configured separately.

TS Ethernet Port Configuration

To configure a TS Ethernet port:

In TS View, open the *TS Ethernet Port Configuration* dialog box in one of the following ways:

- Double-click a line in the port configuration table, located at the bottom of the screen.
- Select a line in the port configuration table, located at the bottom of the screen and then select **Edit Port** from the *Port* menu.

Note

If you select **Edit Port** without selecting a line in the port configuration table, the following warning is displayed:

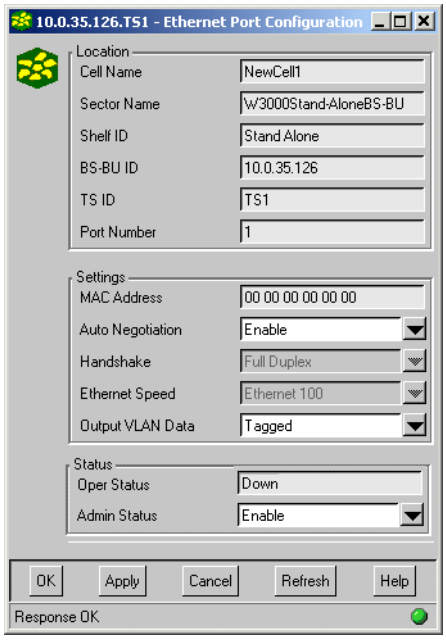
Figure 6-15: No Port Selected Warning

Note

The line you select must correspond to an Ethernet port. The Port Configuration dialog box varies according to port type.

The *TS Ethernet Port Configuration* dialog box is displayed:

Figure 6-16: TS Ethernet Port Configuration Dialog Box



The following parameters are displayed in the *TS Ethernet Port Configuration* dialog box:

Location area	
Cell Name	The name of the cell for which this TS has been defined.
Sector Name	The name of the sector for which this TS has been defined.
Shelf ID	The name of the Shelf for which this TS has been defined. If a Shelf name is not defined, the Shelf's IP address is used as the Shelf ID. If this is a Stand-Alone TS-BU, Shelf ID = the name of the Stand-Alone BS-BU.
BS-BU ID	The system name if defined for the W3000 BS-BU or, when no system name is defined, the customer ID of the W3000 BS-BU.
TS ID	The system name if defined for the TS or, when no system name is defined, the customer ID of the TS.
Port Number	The number of the onboard port.
Settings area	
MAC Address	The MAC address of the Ethernet card. This field is read-only.
Auto Negotiation	Two values: **Enable** or **Disable**. When **Enable** is selected, the system automatically senses whether the communication is Full or Half Duplex (Handshake) and whether the Ethernet speed is 10 or 100 Mbps. When **Disable** is selected, the user can select the Handshake and Ethernet Speed manually (see *Handshake* and *Ethernet Speed* below.
Handshake	The handshake value: **Half Duplex**, **Full Duplex** or **None**. This field is read-only if *Auto Negotiation* is set to **Enable** (see above).
Ethernet Speed	The Ethernet interface detected speed: **None**, **Ethernet 10** or **Ethernet 100**. This field is read-only if *Auto Negotiation* is set to **Enable** (see above).

Output VLAN Data	Indicates whether the user's LAN is working with a VLAN: **Tagged**, **Untagged**. This parameter defines whether the VLAN tag should send in IP packets.
Status area	
Oper Status	The operational status of the telecom interface: **Up** or **Down.**
Port Admin Status	The administrative status of the telecom interface: **Enabled** or **Disabled**.

From the *TS Ethernet Port Configuration* dialog box, you can do the following:

- Examine the configuration of an onboard Ethernet port.
- Set the Ethernet port administrative status.
- Set the Handshake (Full or Half Duplex) and the Ethernet Speed (10 or 100 Mbps).
- Set the Ethernet port output VLAN data tag.

TS E1 Port Configuration

To configure a TS E1 port:

In TS View, open the TS E1 Port Configuration dialog box in one of the following ways:

- Double-click a line in the port configuration table, located at the bottom of the screen.
- Select a line in the port configuration table, located at the bottom of the screen and then select Edit Port from the Port menu.

Note

If you select **Edit Port** without selecting a line in the port configuration table, the following warning is displayed:

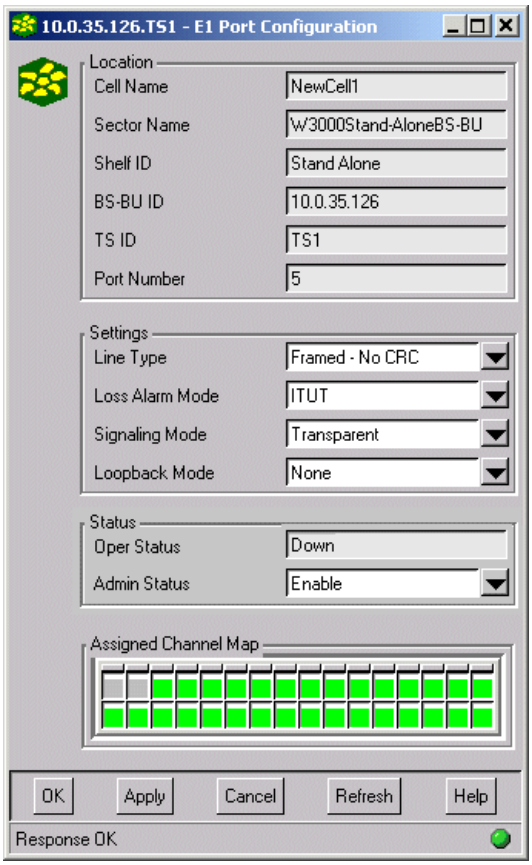
Figure 6-17: No Port Selected Warning

Note

The line you select must correspond to an Ethernet port. The Port Configuration dialog box varies according to port type.

The *TS E1 Port Configuration* dialog box is displayed as shown below:

Figure 6-18: TS E1 Port Configuration Dialog Box



The following parameters are displayed in the *TS E1 Port Configuration* dialog box:

Location area	
Cell Name	The name of the cell for which this TS has been defined.
Sector Name	The name of the sector for which this TS has been defined.
Shelf ID	The name of the Shelf for which this TS has been defined. If a Shelf name is not defined, the Shelf's IP address is used as the Shelf ID. If this is a Stand-Alone TS-BU, Shelf ID = the name of the Stand-Alone BS-BU.
BS-BU ID	The system name if defined for the W3000 BS-BU or, when no system name is defined, the customer ID of the W3000 BS-BU.

TS ID	The system name if defined for the TS or, when no system name is defined, the customer ID of the TS.
Port Number	The number of the onboard port.
Settings area	
Line Type	The E1 interface framing format: **Unframed**, **Double Frame**, **Multi Frame CRC4**, **Multi Frame CRC4(Ext)**.
Loss Alarm Mode	The E1 loss alarm mode: **ITUT** or **ETSI**. The standard used for loss alarm criteria.
Signaling Mode	The E1 signaling mode: **Transparent**, **CCS** or **None**.
Loopback mode	The type of the loopback applied to the E1 telecom interface: **None, Remote, Local, Payload or Other**.
Status area	
Oper Status	The operational status of the telecom interface: **Up** or **Down**. Read-only.
Port Admin Status	The administrative status of the telecom interface: **Enabled** or **Disabled**.

From the TS Ethernet Port Configuration dialog box, you can do the following:

- Configure the parameters of an onboard E1 port.
- Set the E1 port administrative status.

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7

Chapter 7 - System Services Configuration

In This Chapter

- "WALKair 1000 License Management" on page 7-2
- "WALKair 1000 Leased Line Service Management" on page 7-4
- "WALKair 1000 V5 Configuration" on page 7-11
- "WALKair 1000 Frame Relay and Ethernet Configuration" on page 7-26
- "WALKair 3000 Client Management" on page 7-47
- "WALKair 3000 IP SLA Management" on page 7-55
- "WALKair 3000 TDM SLA Management" on page 7-68
- "WALKair 3000 Service Management" on page 7-78
- "WALKair 3000 Show Clients" on page 7-95

WALKair 1000 License Management

In WALKair 1000, certain device features are required to be licensed for BS-BU and TS 1300. You can view the features currently supported in the system at any time. If an unlicensed feature is accessed, the device will return an error in WALKnet.

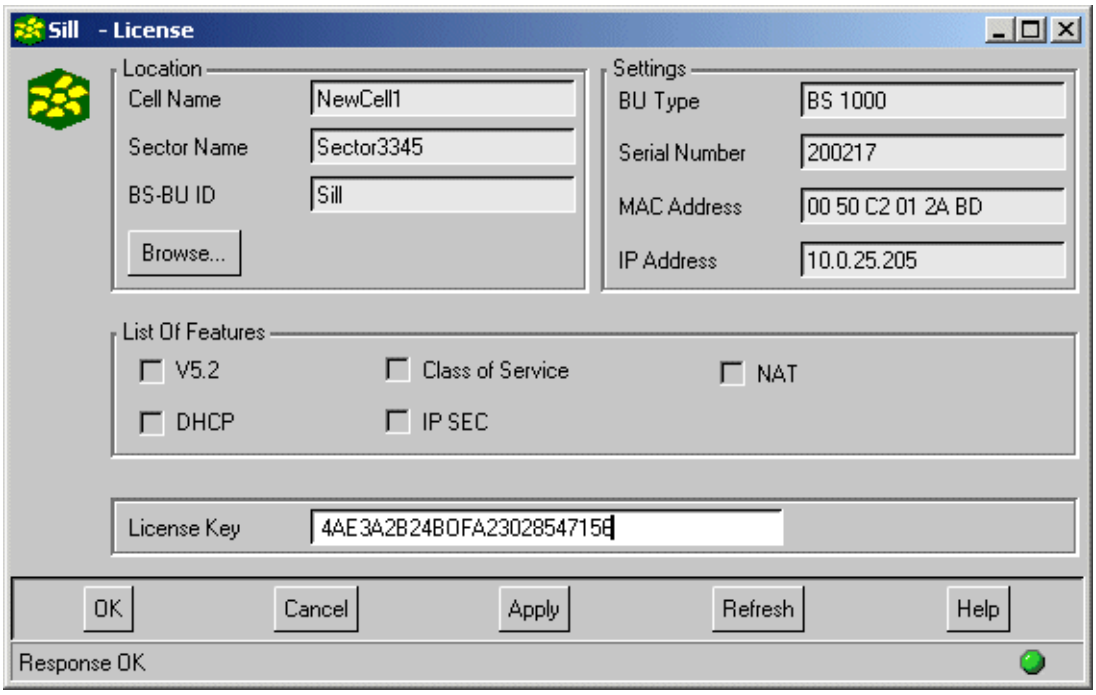
To apply the license key:

1 Access Base Station BU View in one of the following ways:

- ◇ In the Network Navigation Tree by double-clicking a BS-BU node.
- ◇ In Sector View by double-clicking a BS-BU, or by selecting a BS-BU and then selecting **View** from the BS-BU menu.
- ◇ In the Main window, by selecting **BS-BU** from the Configuration menu, or clicking **View BS-BU** in the toolbar. Browse to the required BS-BU in the Browse BS-BU dialog box, and click **OK.**

2 In BS-BU view, from the BS-BU menu, select **License**, to display the License dialog box, an example of which is shown below.

Figure 7-1: License Dialog Box for a BS-BU



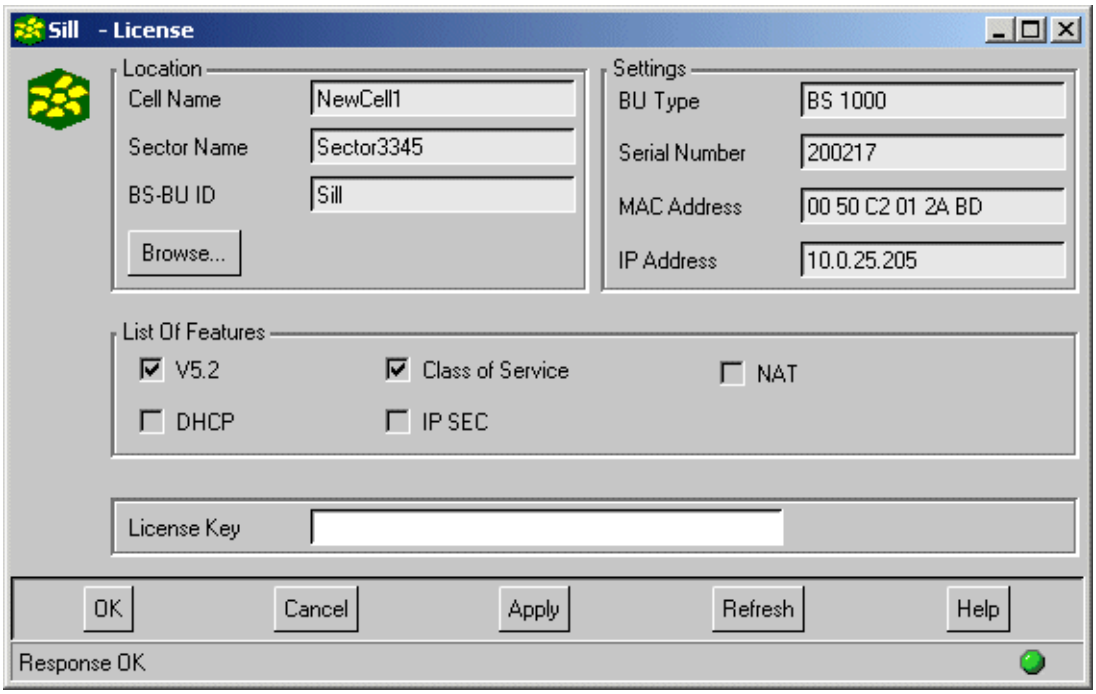
3 Enter the license key supplied and then click **Apply**.

The license is transmitted to WALKair 1000 via SNMP.

4 Verify that the WALKair features provided by your license are available, by clicking **Refresh**.

In the example dialog box shown below for a BS-BU, the license key entered enabled the WALKair V5.2 and *Class of Service* features.

Figure 7-2: Enabled BS-BU Options in License Dialog Box



5 Click **OK** to continue.

WALKair 1000 Leased Line Service Management

Leased lines are defined between telecom ports. WALKair supports leased line services defined over E1, E1-75/120W and V.35/X.21 telecom cards. You configure leased line services from the telecom port of a BS-BU to the telecom port of TS-BUs registered to the BS-BU.

You can configure these services for a TS-BU before it is physically located in the WALKair system or when it is disconnected from the BS-BU. Upon establishing the air link, the TS-BU receives all its configuration parameters from the BS-BU.

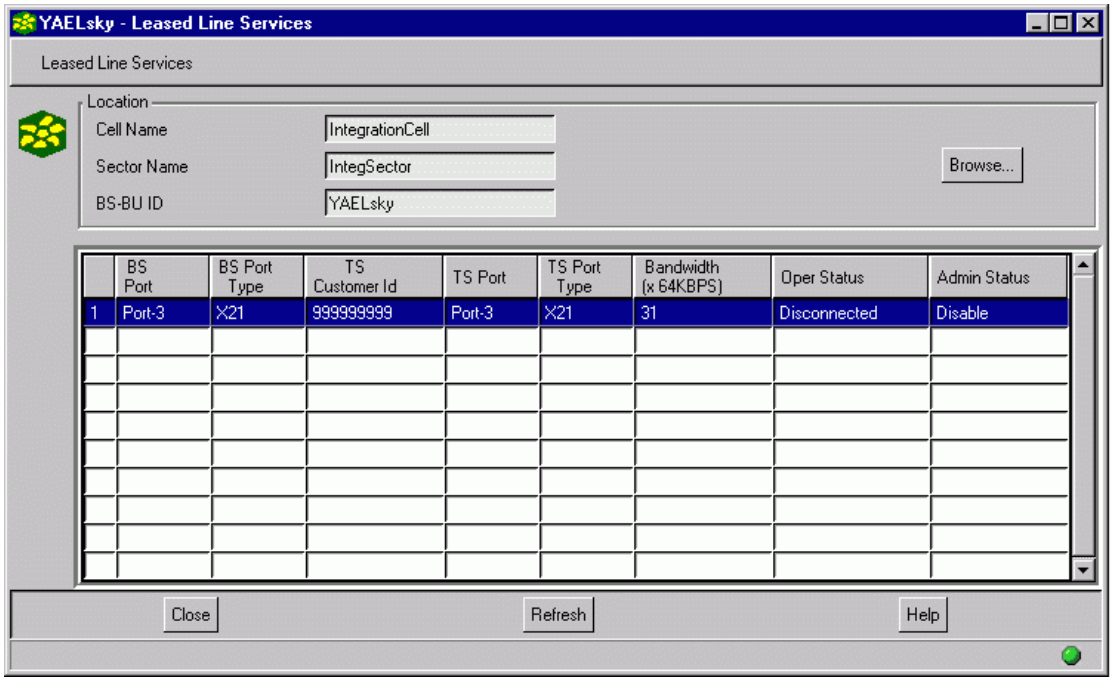
Leased line services are configured from the Leased Line Services dialog box.

To access the Leased Line Services dialog box:

1 In Base Station BU View, from the BS-BU menu, select **Services**, then **Leased Line Services**.

The *Leased Line Services* dialog box is displayed, as shown below:

Figure 7-3: Leased Line Services Dialog Box



The Leased Line Services dialog box displays a list of leased line services currently defined on the BS-BU. It includes the following read-only fields:

Location area	
Cell Name	The name of the cell for which this BS-BU has been defined..
Sector Name	The name of the sector for which this BS-BU has been defined.
BS-BU ID	The system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is specified in the BS-BU *Properties Edit* dialog box.
List of Leased Line Services	
BS Port	The number of the port in the BS-BU.
BS Port Type	The configured BS-BU port type: **E1**, **E1-75/120**Ω, **V.35** or **X.21**.
TS Customer Id	The identification number of the TS-BU.
TS Port	The number of the port in the associated TS-BU.
TS Port Type	The configured TS-BU port type: **E1**, **E1-75/120**Ω, **V.35** or **X.21**.
Bandwidth (x 64KBPS)	The bandwidth (x 64Kbps) allocated for the specified leased line service.
Oper Status	The operational status of the leased line service: **Connected** or **Disconnected**.
Admin Status	The administrative status of the leased line service: **Enable** or **Disable**.

From the Leased Line Services dialog box, you can add new leased line services between ports and edit or delete existing services.

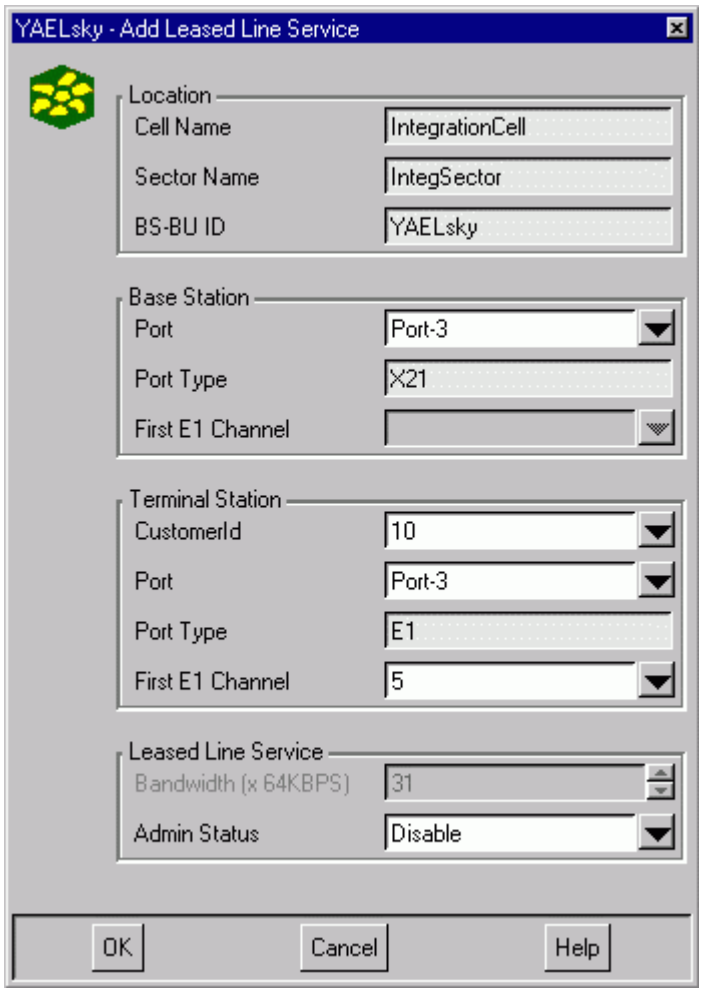
Adding Leased Line Services

When adding leased line services, you specify the ports on the BS-BU and TS-BU participating in the service and the bandwidth provided by the service.

To add leased line services:

1 In the Leased Line Services dialog box, from the Leased Line Services menu select **Add**. The Add Leased Line Service dialog box is displayed as shown below:

Figure 7-4: Add Leased Line Service Dialog Box



Note

The **Cell Name** and **Sector Name** fields are read-only fields that display the names of the cell and sector for which the BS-BU is defined. The **BS-BU ID** field is also read-only and displays the system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is defined in the BS-BU *Properties Edit* dialog box.

2 In the *Base Station* area,

◇ Select the BS-BU port (1-3) for the new service from the dropdown list in the Port field. The configured port type of the selected port is automatically displayed in the Port Type field.

◇ When the port type is E1, select the first E1 channel in the First E1 Channel field.

Note

The E1 channels defined for the signaling for the port are unavailable for selection. For example, when the **Signaling Type** for the port is CCS, channel 16 is unavailable. Additionally, channel 0 is unavailable for selection.

3 In the *Terminal Station* area,

◇ Select the TS-BU Customer ID from the dropdown list in the **Customer Id** field.

◇ Select the TS-BU port (1-3) for the new service from the dropdown list in the **Port** field. The configured port type of the selected port is automatically displayed in the **Port Type** field.

◇ When the port type is **E1**, select the first E1 channel in the **First E1 Channel** field.

Note

The E1 channels defined for the signaling for the port are unavailable for selection. For example, when the **Signaling Type** for the port is **CCS**, channel 16 is unavailable. Additionally, channel 0 is unavailable for selection.

4 In the *Leased Line Service* area,

◇ Select the bandwidth (n x 64Kbps) for the new service using the arrows in the **Bandwidth** field (n between 1 and 32).

◇ LL services are only possible with E1, X.21 and V.35 packets. Select the administrative status for the new service from the dropdown list in the **Admin Status** field.

5 Click **OK**. The new service is displayed in the *Leased Line Services* dialog box.

Editing Leased Line Services

The administrative status of existing leased line services can be edited.

To edit leased line services:

1 In the *Leased Line Services* dialog box; select an existing service from the list of leased line services.

2 From the Leased Line Services menu, select **Edit**.

The Edit Leased Line Service dialog box is displayed.

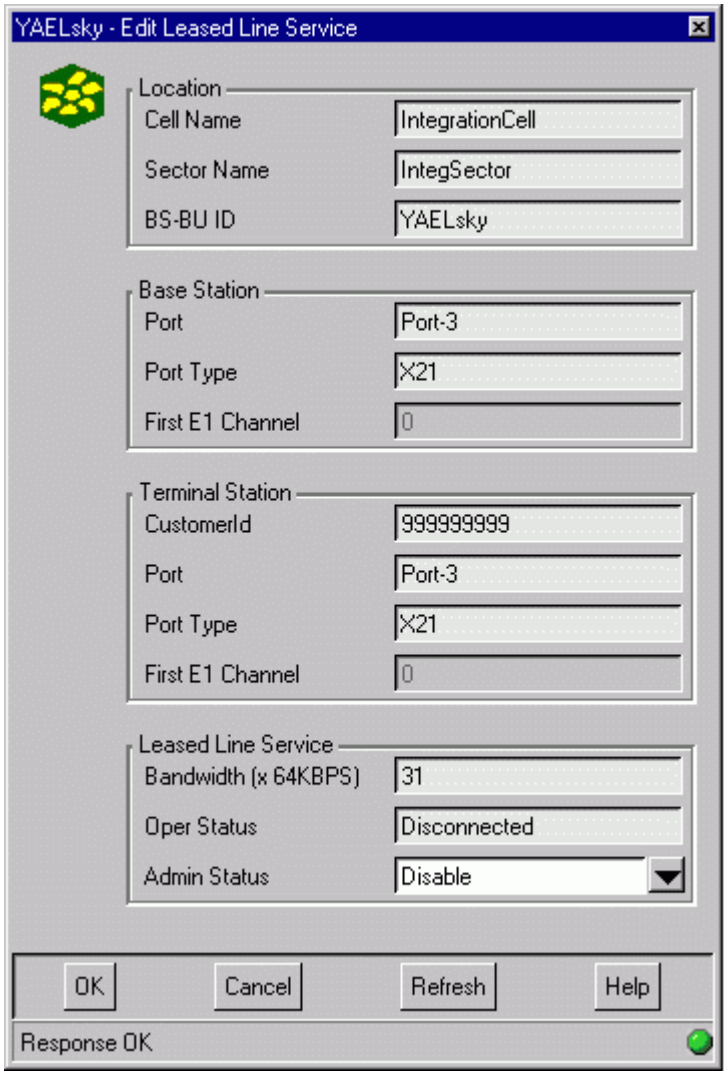


Figure 7-5: Edit Leased Line Service Dialog Box

3 Modify the administrative status of the service by selecting **Enable/Disable** from the dropdown list in the **Admin Status** field.

4 Click **OK**.

Deleting Leased Line Services

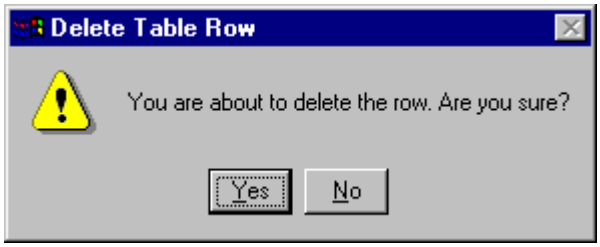
To delete a leased line service from the system, the administrative status of the service must be disabled.

To delete leased line services:

1 In the *Leased Line Services* dialog box; select an existing service from the list of leased line services.

2 From the *Leased Line Services* menu, select **Delete**. The Delete Table Row confirmation message is displayed:

Figure 7-6: Delete Table Row Confirmation Message



3 Click **Yes** to delete the leased line service.

WALKair 1000 V5 Configuration

V5 configuration involves the management of the following items:

- V5 Interfaces
- V5 Subscribers
- V5 Global Parameters

The V5 interface can take two forms: V5.1 and V5.2. The BS-BU is connected to the Public Switch by the V5.2 interface, which supports up to three E1 links and provides a protection mechanism. PSTN or ISDN traffic runs over the V5.2 interface. The TS-BU supports the V5.1 interface and each TS-BU can support up to three V5.1 or BRI interfaces. The V5.1 interface can be defined over E1 (single interface per E1 link with no protection). The BRI interface can be defined over the BRI telecom interface on the TS-BU. In this case, WALKair translates the ISDN protocol to ISDN over V5.2 on the BS-BU side. The POTS interface can be defined over the POTS telecom interface on the TS-BU. In this case, WALKair translates the protocol over V5.2 on the BS-BU side. The V5 interfaces database is located on BS-BU.

You can define V5 configuration for a TS-BU before it is physically located in the WALKair system or when it is disconnected from the BS-BU. Then, when the air link is established and the administrative status of both the TS-BU and the BS-BU is enabled, the TS-BU receives all its configuration parameters from the BS-BU.

V5 Interface Configuration

V5 interfaces are configured from the V5 Interfaces dialog box.

To access the V5 Interfaces dialog box:

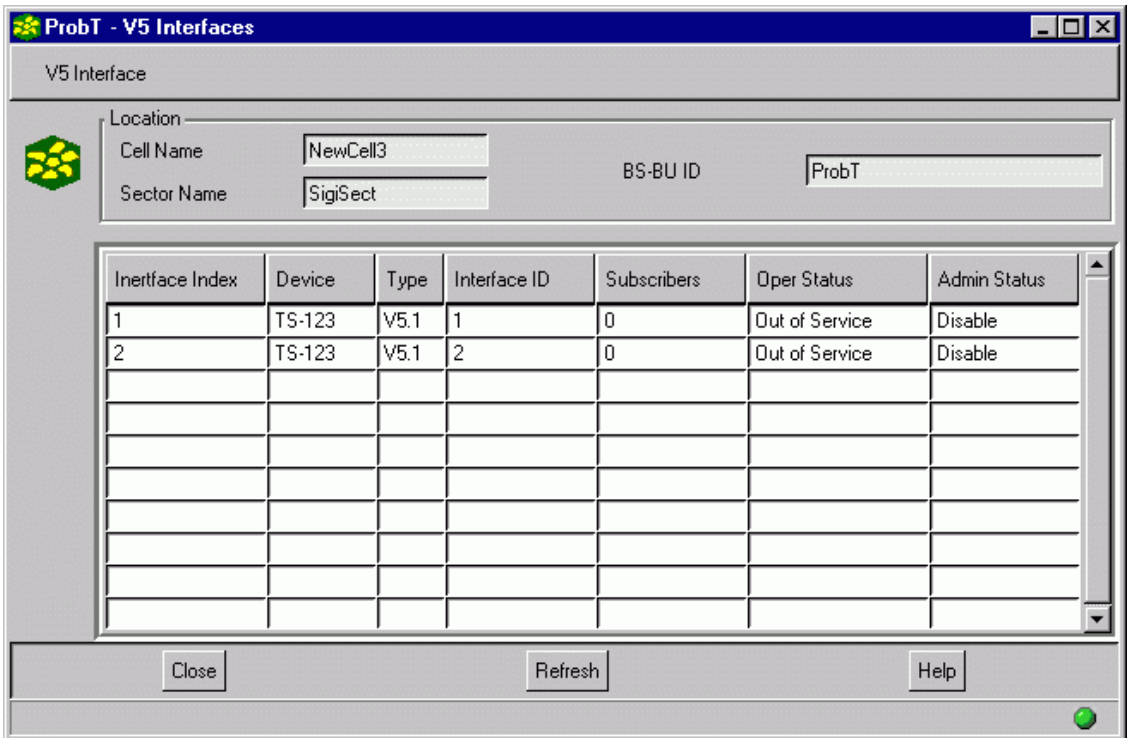
The V5 Interfaces dialog box is accessed in one of the following ways:

- In Base Station BU View or Terminal Station BU View, from the BS-BU/Terminal menu, select **Services**, then **V5 Configuration** and then **V5 Interfaces**.

- In the Main window, from the *Configuration* menu, select **Services**, then **V5 Configuration** and then **V5 Interfaces**. Browse to the required BS-BU in the *Browse BS-BU* dialog box, and click **OK**.

  The *V5 Interfaces* dialog box is displayed as shown below:

Figure 7-7: V5 Interfaces Dialog Box



The V5 Interfaces dialog box displays the V5 interfaces defined on the selected BS-BU and the TS-BUs registered to the BS-BU.

Note

When the *V5 Interfaces* dialog box is accessed from Terminal Station BU View, it displays the V5 interfaces defined on the current TS-BU and the BS-BU to which it is connected (registered).

The V5 Interfaces dialog box includes the following read-only fields:

Location area	
Cell Name	The name of the cell for which this BS-BU has been defined..
Sector Name	The name of the sector for which this BS-BU has been defined.
BS-BU ID	The system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is specified in the *BS-BU Properties Edit* dialog box.
TS-BU ID	The system name if defined for the TS-BU or, when no system name is defined, the customer ID of the TS-BU. The system name is specified in the *Terminal Station BU Properties Edit* dialog box. This field is only present when the *V5 Interfaces* dialog box is accessed from Terminal Station BU View.
List of Leased Line Services	
Interface Index	Uniquely identifies the interface.
Device	The device (BS-BU or TS-BU) on which the interface is defined.
Type	The type of V5 interface supported by the device: **V5.1**, **V5.2**, **QBRI** or **QPOTS**.

Interface ID	The identification or reference number for the interface.
Subscribers	The number of subscribers using the V5 interface.
Oper Status	The operational status of the V5 interface: **In Service** or **Out of Service**.
Admin Status	The administrative status of the V5 interface: **Enable** or **Disable**. By default, the administrative status of V5 interfaces is **Disable**.

From the V5 Interfaces dialog box, you can define new V5 interfaces, view and edit the properties of existing interfaces and delete interfaces.

Adding V5 Interfaces

V5 interfaces are defined on BS-BUs and TS-BUs. However, V5 interfaces can only be defined when the V5 Interfaces dialog box is accessed from Base Station BU View or from the WALKnet Main window.

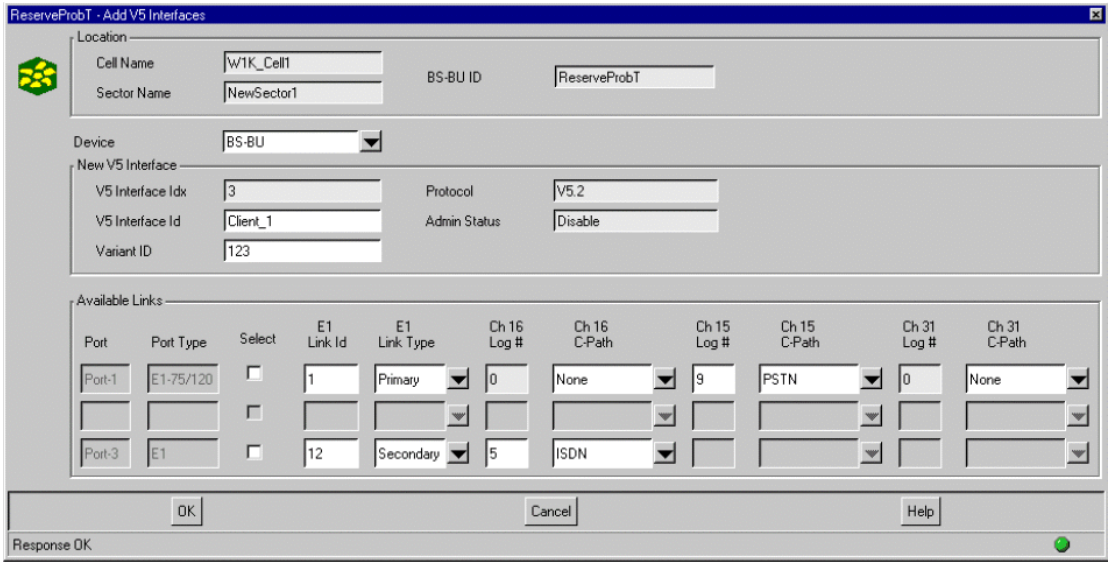
On the BS-BU, you can define a V5.2 interface over up to three E1 links. On the TS-BU, you can define a V5.1, QBRI or QPOTS interface over a single E1, QBRI or QPOTS card.

To add V5 interfaces:

1 Access the *V5 Interfaces* dialog box from Base Station BU View or from the WALKnet Main window.

2 From the *V5 Interface* menu, select **Add Interface**. The *Add V5 Interfaces* dialog box is displayed as shown below:

Figure 7-8: Add V5 Interfaces Dialog Box



3 Select the BS-BU or TS-BU for which you want to define the interface from the dropdown list in the **Device** field. The V5 protocol supported by the selected device (V5.1 or V5.2) is automatically displayed in the **Protocol** field. The available **E1**, **E1-75/120Ω**, **QBRI** and **QPOTS** ports on the selected device are displayed in the Available Links area.

Notes

To define V5 over E1 and E1-75/120W, the signaling must be CCS. Therefore only E1 and E1-75/120W ports with CCS signaling are displayed in the **Available Links** area.

By default, the administrative status of a V5 interface is **Disable**. You can modify this status in the *Change V5 Interface Admin Status* dialog box. Refer to "Editing V5 Interfaces" on page 7-17 for details.

4 Enter numbers in the **V5 Interface Id** and **Variant ID** fields, as required.

Notes

The **V5 Interface Idx** field displays an identifier for the V5 interface.

5 When defining an interface for a TS-BU, enter the maximum number of calls that can run over the V5 interface in the **Max Number of Calls** field. The number can be between 0-31 for E1 and E1-75/120Ω ports, between 0-8 for QBRI ports and between 0-4 for POTS ports.

6 Select the checkbox in the **Select** field to select the port for participation in the V5 interface.

Notes

When you select a QBRI port, the **E1 Link Id**, **E1 Link Type**, **C-Ch Log #** and **C-Ch C-Path** fields are not relevant and are disabled.

7 If you selected an E1 or E1-75/120Ω port, further define the V5 interface, as follows:

- ◇ Enter an ID number for the port in the E1 Link Id field.
- ◇ When defining an interface for a BS-BU, select an E1 link type of **Primary**, **Secondary** or **None** from the dropdown list in the **E1 Link Type** field. When defining an interface for a TS-BU, this field is disabled, and the **E1 Link Type** is **None**.
- ◇ In the **C-Ch Log #** and **C-Path** fields, enter the V5 C-Channel logical number and C-Path (**None**, **ISDN**, **PSTN** or **ISDN** and **PSTN**) for each signaling channel.

Notes

When you select an E1 port, only one channel is available for signaling therefore you only need to specify values in the **C_Ch16 Log #** and **C_Ch16 C-Path** fields.

E1-75/120Ω ports can have up to three channels for signaling, as follows:

- 16 (CCS) – specify values in **C_Ch16 Log #** and **C_Ch16 C-Path** fields.
- 15 and 16 (CCS2) – specify values in **C_Ch16 Log #**, **C_Ch16 C-Path**, **C_Ch15 Log #** and **C_Ch15 C-Path** fields.
- 15, 16 and 31 (CCS3) – specify values in **C_Ch16 Log #**, **C_Ch16 C-Path**, **C_Ch15 Log #**, **C_Ch15 C-Path**, **C_Ch31 Log #** and **C_Ch31 C-Path** fields.

8 Click **OK**. The new interface is displayed in the *V5 Interfaces* dialog box.

Viewing V5 Interface Properties

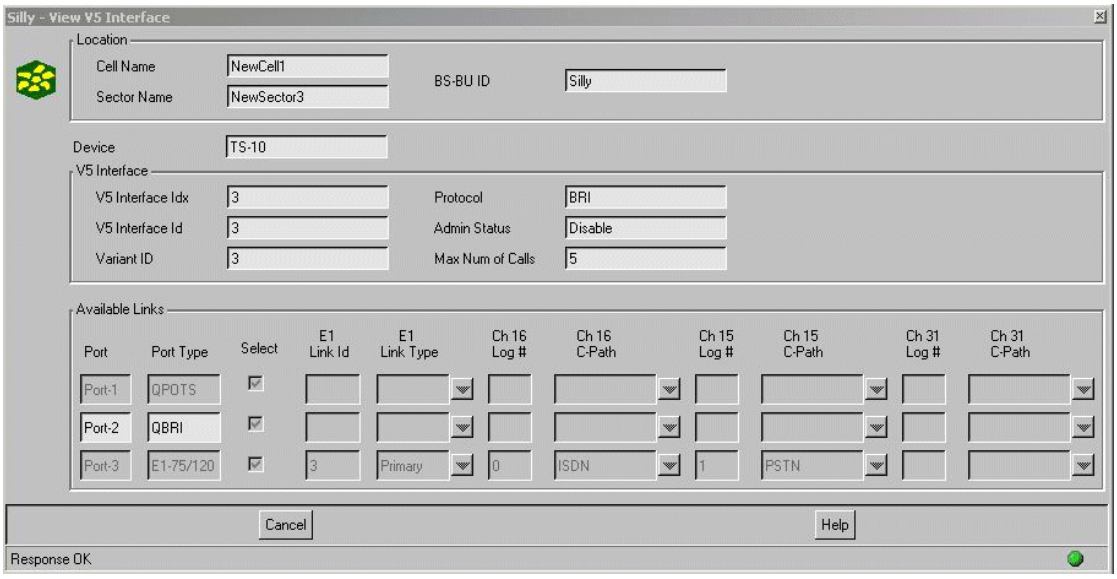
When you have added a V5 interface, you can view its properties.

To view V5 interfaces:

1 In the *V5 Interfaces* dialog box; select an existing interface from the list of V5 interfaces.

2 From the *V5 Interface* menu, select **View Interface**. The **View V5 Interface** dialog box is displayed as shown below:

Figure 7-9: View V5 Interface Dialog Box



The *View V5 Interface* dialog box displays the properties of the V5 interface specified during the add procedure. To modify the properties, see "Editing V5 Interfaces" on page 7-17.

Editing V5 Interfaces

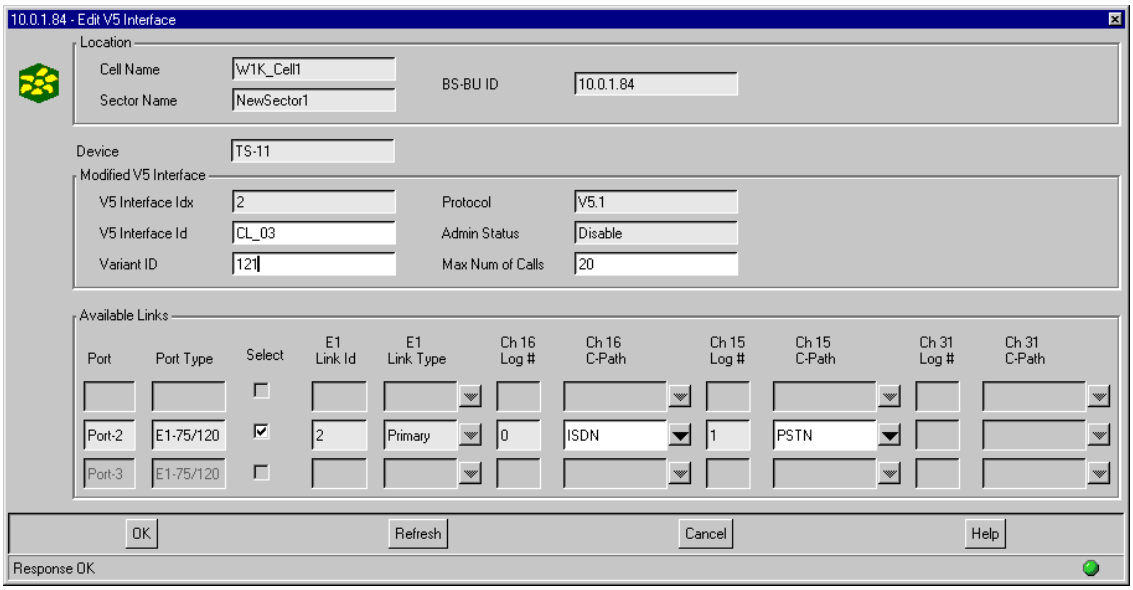
The properties of an existing V5 interface can be modified when the administrative status is Disable.

To edit V5 interfaces:

1 In the *V5 Interfaces* dialog box; select an existing interface with a **Disable** administrative status from the list of V5 interfaces.

2 From the *V5 Interface* menu, select **Edit Interface**. The *Edit V5 Interface* dialog box is displayed as shown below:

Figure 7-10: Edit V5 Interface Dialog Box



3 Modify the **V5 Interface Id**, **Variant ID** and the fields in the Available Links area, as required.

Notes

By default, the administrative status of a V5 interface is **Disable**. You can modify this status in the *Change V5 Interface Admin Status* dialog box. Refer to page 7-18 for details.

4 Click **OK**.

Changing the Administrative Status

The administrative status of a V5 interface is modified separately from the other properties.

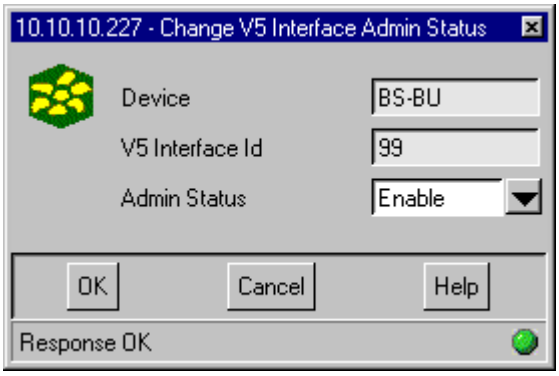
To change the administrative status:

1 In the *V5 Interfaces* dialog box; select an existing interface from the list of V5 interfaces.

2 From the *V5 Interface* menu, select **Change Interface Status**.

The Change V5 Interface Admin Status dialog box is displayed as shown below:

Figure 7-11: Change V5 Interface Admin Status Dialog Box



3 Modify the administrative status of the V5 interface by selecting **Enable**/**Disable** from the dropdown list in the **Admin Status** field.

4 Click **OK**.

Deleting V5 Interfaces

To delete a V5 interface, the BS-BU's V5 interface must have a Disable administrative status.

To V5 interfaces:

1 In the *V5 Interfaces* dialog box; select an existing interface from the list of V5 interfaces.

2 From the *V5 Interface* menu, select **Delete**. The selected interface is deleted.

V5 Subscribers

When V5 interfaces have been defined, you can define V5 subscribers over these interfaces. WALKair enables the definition of up to 600 V5 subscribers.

Defined subscribers can be saved and loaded to subscriber files containing the default extension ***.sub**. Filter options provide you with the ability to filter the subscriber display and view only those subscribers with special parameters or all subscribers located on a specified TS-BU.

V5 subscribers are defined in the V5 Subscribers dialog box.

To access the V5 Subscribers dialog box:

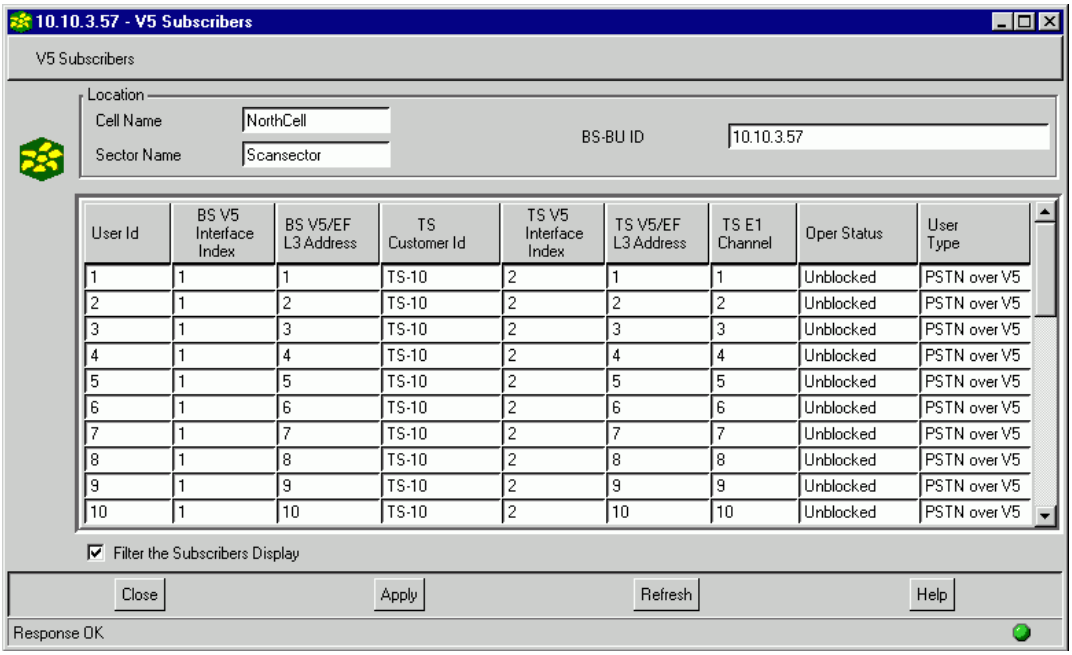
The V5 Subscribers dialog box is accessed in one of the following ways:

- In Base Station BU View or Terminal Station BU View, from the *BS-BU* menu select **Services**, then **V5 Configuration** and then **V5 Subscribers**.

- In the Main window, from the *Configuration* menu select **Services**, then **V5 Configuration** and then **V5 Subscribers**. Browse to the required BS-BU in the *Browse BS-BU* dialog box, and click **OK**.

The *V5 Subscribers* dialog box is displayed as shown below:

Figure 7-12: V5 Subscribers Dialog Box


10.10.3.57 - V5 Subscribers
V5 Subscribers
Location
Cell Name
NorthCell
Sector Name
Scansector
BS-BU ID
10.10.3.57
User Id
BS V5 Interface Index
BS V5/EF L3 Address
TS Customer Id
TS V5 Interface Index
TS V5/EF L3 Address
TS E1 Channel
Oper Status
User Type
1 1 1 TS-10 2 1 1 Unblocked PSTN over V5
2 1 2 TS-10 2 2 2 Unblocked PSTN over V5
3 1 3 TS-10 2 3 3 Unblocked PSTN over V5
4 1 4 TS-10 2 4 4 Unblocked PSTN over V5
5 1 5 TS-10 2 5 5 Unblocked PSTN over V5
6 1 6 TS-10 2 6 6 Unblocked PSTN over V5
7 1 7 TS-10 2 7 7 Unblocked PSTN over V5
8 1 8 TS-10 2 8 8 Unblocked PSTN over V5
9 1 9 TS-10 2 9 9 Unblocked PSTN over V5
10 1 10 TS-10 2 10 10 Unblocked PSTN over V5
Filter the Subscribers Display
Close
Apply
Refresh
Help
Response OK

The *V5 Subscribers* dialog box displays the V5 subscribers defined on the selected BS-BU and TS-BUs registered to the BS-BU.

Notes

When the V5 Subscribers dialog box is accessed from Terminal Station BU View, it displays the V5 subscribers defined on the current TS-BU and the BS-BU to which it is connected (registered).

The V5 Subscribers dialog box includes the following read-only fields:

Location area	
Cell Name	The name of the cell for which this BS-BU has been defined..
Sector Name	The name of the sector for which this BS-BU has been defined.
BS-BU ID	The system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is specified in the *BS-BU Properties Edit* dialog box.
TS-BU ID	The system name if defined for the TS-BU or, when no system name is defined, the customer ID of the TS-BU. The system name is specified in the *Terminal Station BU Properties Edit* dialog box. This field is only present when the *V5 Interfaces* dialog box is accessed from Terminal Station BU View.
List of V5 Subscribers	
User ID	The unique subscriber identification number.
BS V5 Interface	The BS-BU V5.2 interface over which the subscriber is defined.
BS V5/EF L3 Address	The specific L3 address identifying the subscriber on the BS-BU V5 interface.
TS Customer Id	The identification number of the TS-BU.
TS V5 Interface	The TS-BU interface over which the subscriber is defined.
TS V5/EF L3 Address	The specific L3 address identifying the subscriber on the TS-BU V5 interface.
TS E1 Channel	The E1 channel allocated for the subscriber on the TS-BU side.
Oper Status	The operational status of the subscriber: Removed, Blocked, or Unblocked
User Type	The user type: **PSTN over V5**, **ISDN over V5**. **ISDN** (over the QBRI interface) or **PSTN** (over the QPOTS interface).

Adding V5 Subscribers

V5 subscribers are defined over V5 interfaces. Subscribers can only be defined when the *V5 Subscribers* dialog box is accessed from Base Station BU View or from the WALKnet Main window.

Notes

Ensure that you have first defined a V5 interface on the BS-BU and on the TS-BU.

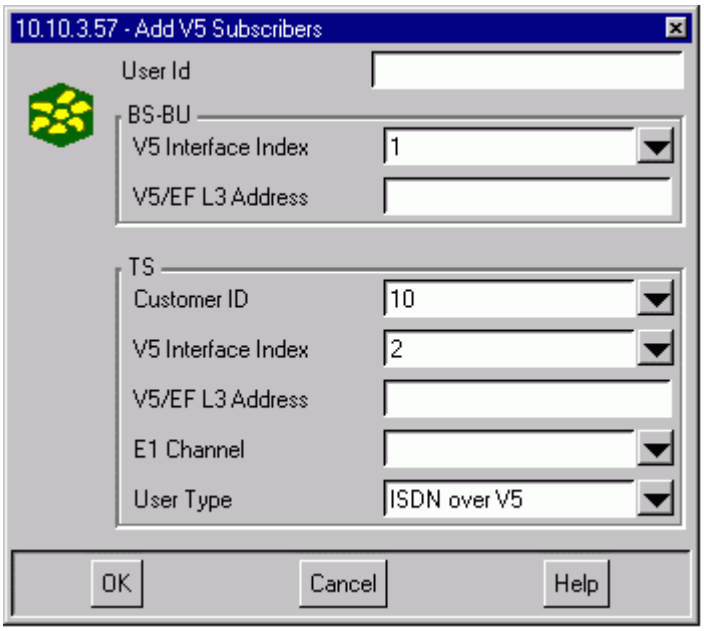
To add V5 Subscribers:

1 Access the *V5 Subscribers* dialog box from Base Station BU View or from the WALKnet Main window.

2 From the *V5 Subscriber* menu, select **Add Subscriber**.

The *Add V5 Subscribers* dialog box is displayed as shown below:

Figure 7-13: Add V5 Subscribers Dialog Box



3 Enter a subscriber identification number in the **User Id** field.

4 Select the BS-BU V5 interface over which you want to define the subscriber from the dropdown list in the **V5 Interface Index** field.

5 Enter a BS-BU L3 address for the subscriber in the **V5/EF L3 Address** field.

6 Select the TS-BU over which you want to define the subscriber from the dropdown list in the **Customer ID** field.

7 Select the TS-BU V5 interface over which you want to define the subscriber from the dropdown list in the **V5 Interface Index** field.

8 Enter a TS-BU L3 address for the subscriber in the **V5/EF L3 Address** field.

9 Select the E1 channel on the TS-BU for the subscriber from the dropdown list in the **E1 Channel** field.

10 Select **PSTN over V5**, **ISDN over V5** or **ISDN** as the user type from the dropdown list in the **User Type** field.

11 Click **OK**. The new subscriber is displayed in the *V5 Subscribers* dialog box.

Deleting V5 Subscribers

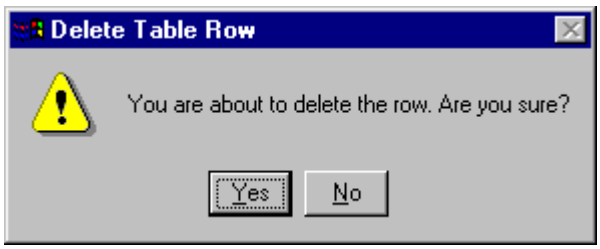
To delete a subscriber from the V5 service, the subscriber must have a Disable administrative status.

To delete V5 Subscribers:

1 In the *V5 Subscribers* dialog box; select an existing subscriber from the list of V5 subscribers.

2 From the *V5 Subscribers* menu, select **Delete**. The Delete Table Row confirmation message is displayed as shown below:

Figure 7-14: Delete Table Row Confirmation Message



3 Click **Yes** to delete the selected subscriber.

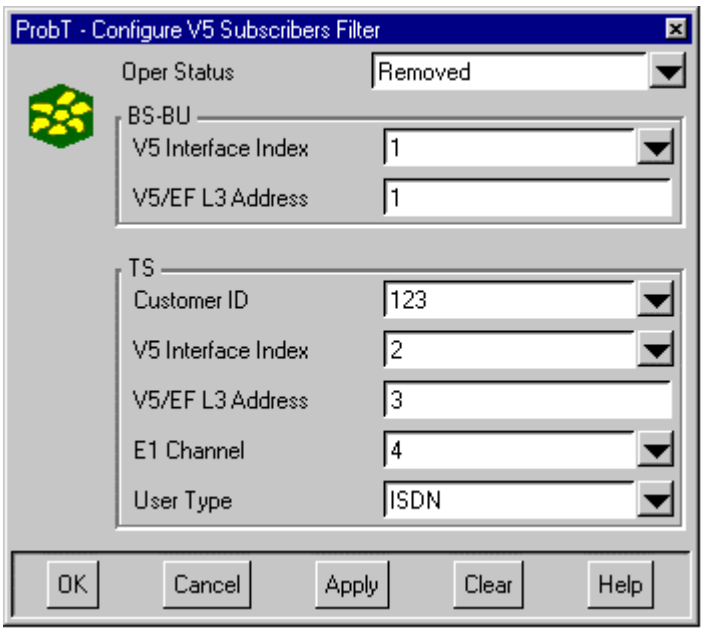
Configuring V5 Subscribers Display Filter

The list of subscribers in the V5 Subscribers dialog box can be filtered to display only subscribers with specific parameters, or all subscribers located on a specific TS-BU.

To configure the V5 subscriber display filter:

1 In the V5 Subscribers dialog box; select **Configure Filter** from the *V5 Subscribers* menu. The Configure V5 Subscribers Filter dialog box is displayed as shown below:

Figure 7-15: Configure V5 Subscribers Filter Dialog Box



2 Specify one or more parameters that you want to use as a filter, and click **OK**. The list of subscribers in the *V5 Subscribers* dialog box displays only those V5 subscribers that share the specified filter parameters.

V5 Global Parameters

If the National Protocol File was downloaded to a BS-BU (that communicates with one or more POTS interfaces on its connected TS-BUs), you can verify that the protocol is active by accessing the *V5 Global Parameters* Dialog Box for the BS-BU.

To access the V5 Global Parameters for a BS-BU:

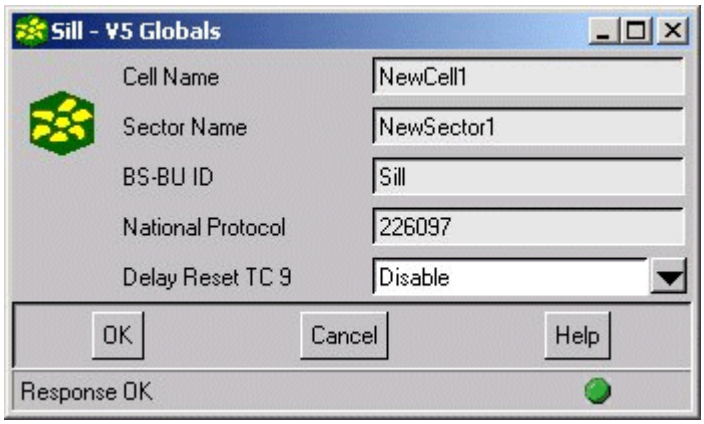
The V5 Globals dialog box is accessed in one of the following ways:

- In Base Station BU View *BS-BU* menu select **Services**, then **V5 Configuration** and then **V5 Globals**.

- In the Main window, from the *Configuration* menu select **Services**, then **V5 Configuration**, **BS-BU**, and then **V5 Globals**. Browse to the required BS-BU in the *Browse BS-BU* dialog box, and click **OK**.

  The *V5 Globals* dialog box for a BS-BU is displayed as shown below:

Figure 7-16: V5 Globals Dialog Box



The National Protocol for the BS-BU is displayed in the National Protocol field.

WALKair 1000 Frame Relay and Ethernet Configuration

This section describes Frame Relay and Ethernet configuration.

Frame Relay Overview

The WALKair system provides a full Frame Relay access network, where the BS-BU implements a Network-to-Network Interface (NNI) and a User to Network Interface (UNI) to the Frame Relay network, and the TS-BU implements a UNI to the CPE (FRAD). In the case of the UNI, only the network side is supported.

The WALKair Frame Relay interface runs on the dedicated telecom card over the V35/X21, E1 or Ethernet physical interface.

Ethernet Overview

WALKair's Ethernet port implementation leverages WALKair's Frame Relay functionality towards the CPE. WALKair's Ethernet port encapsulates the outgoing packets and decapsulates the incoming packets with the Frame Relay RFC1490 Route encapsulation. Multiple DLCIs are assigned to the Ethernet port, up to 250 DLCIs at the Base Station, and up to 30 at the Terminal Station.

Packets coming from the Ethernet interface are sent over the air through the different PVCs using the following mapping mechanisms: VLAN-based DLCI mapping, and source/destination IP subnet DLCI mapping.

Frames that arrive from the air are transmitted by the Ethernet interface to the connected device containing VLAN tags, or not, according to the source DLCI.

Configuring Frame Relay and Ethernet

Configuration and maintenance of the WALKair Frame Relay application involves the management of the following RFC 1604 MIB objects:

- Frame Relay Logical Port Table

- Frame Relay Management VC Signaling Table
- Frame Relay PVC End-Point Table
- Frame Relay PVC Connection Table

Frame Relay parameters can be configured for BS-BUs and all registered TS-BUs. The BS-BU stores the Frame Relay configuration and transfers it to the TS-BUs when the air link is established. When there is a configuration mismatch between the configured parameters and the installed hardware, the TS-BU transmits a configuration mismatch Trap.

The workflow for configuring Frame Relay services is as follows:

- Define the **Configured Type** as **FR** or **Ethernet**. Refer to Chapter 6, "Telecom Port Configuration".
- Define Frame Relay logical ports over the physical Frame Relay card. Refer to "Frame Relay Logical Port Configuration" on page 7-27.
- Define the Frame Relay/Ethernet connection over the logical ports. See Frame"Frame Relay/Ethernet Service Configuration" on page 7-34.

Frame Relay Logical Port Configuration

WALKair supports a single Frame Relay port per Frame Relay card and enables you to define Frame Relay logical ports over the telecom interfaces configured as V.35-FR (2M and 4M), X.21-FR (2M and 4M) or E1-FR.

To define Frame Relay logical ports:

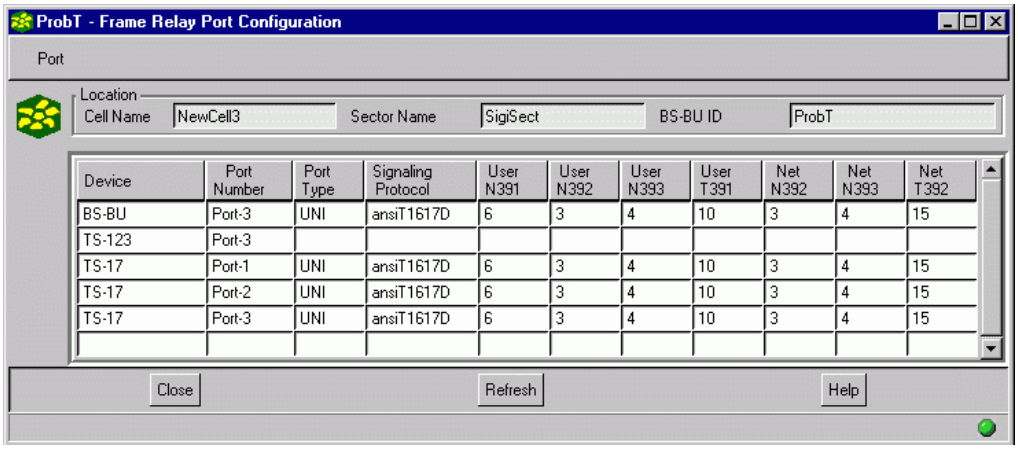
The *Frame Relay Port Configuration* dialog box is accessed in one of the following ways:

- In Base Station BU View, from the *BS-BU* menu, select **Services**, then **Frame Relay/Ethernet Configuration** and then **Frame Relay Port**.
- In Terminal Station BU View, from the *Terminal* menu, select **Services**, then **Frame Relay/Ethernet Configuration** and then **Frame Relay Port**.

- In the Main window, from the *Configuration* menu, select **Services**, then **Frame Relay/Ethernet Configuration**, then **BS-BU** or **TS-BU**, and then **Frame Relay Port**. Browse to the required BS-BU/TS-BU in the *Browse BS-BU/Browse TS* dialog box, and click **OK**.

The *Frame Relay Port Configuration* dialog box is displayed as shown below:

Figure 7-17: Frame Relay Port Configuration Dialog Box



Device	Port Number	Port Type	Signaling Protocol	User N391	User N392	User N393	User T391	Net N392	Net N393	Net T392
BS-BU	Port-3	UNI	ansiT1617D	6	3	4	10	3	4	15
TS-123	Port-3									
TS-17	Port-1	UNI	ansiT1617D	6	3	4	10	3	4	15
TS-17	Port-2	UNI	ansiT1617D	6	3	4	10	3	4	15
TS-17	Port-3	UNI	ansiT1617D	6	3	4	10	3	4	15

Notes

You cannot define Frame Relay logical ports for Ethernet ports. The BS-BU automatically defines the logical ports for Ethernet interfaces defined on a BS-BU or TS-BU. Thus the only parameters displayed in the Frame Relay Port Configuration dialog box for the Frame Relay Ethernet ports are **Device** and **Port Number**.

The *Frame Relay Port Configuration* dialog box displays the Frame Relay ports defined on the selected BS-BU and the TS-BUs registered to the BS-BU.

Notes

When the Frame Relay Port Configuration dialog box is accessed from Terminal Station BU View, it displays the Frame Relay ports defined on the current TS-BU.

The Frame Relay Port Configuration dialog box includes the following read-only fields:

Location area	
Cell Name	The name of the cell for which this BS-BU has been defined..
Sector Name	The name of the sector for which this BS-BU has been defined.
BS-BU ID	The system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is specified in the *BS-BU Properties Edit* dialog box.
TS-BU ID	The system name if defined for the TS-BU or, when no system name is defined, the customer ID of the TS-BU. The system name is specified in the *Terminal Station BU Properties Edit* dialog box. This field is only present when the *Frame Relay Port Configuration* dialog box is accessed from Terminal Station BU View.
List of FR Ports	
Device	The device (BS-BU or TS?BU) on which the interface is defined.
Port Number	The telecom port number.
Port Type	The type of network interface supported by the logical port: **UUNI** (UNI user side), **NUNI** UNI network side), or **NNI**.
Signaling Proto-col	The local in-channel signaling protocol used for the logical port: **None**, **Lmi**, **AnsiT1617D** or **CcittQ933A**.
User N391	The user-side N391 full status polling cycle value for the logical port.
User N392	The user-side N392 error threshold value for the logical port.

User N393	The user-side N393 monitored events count value for the logical port.
User T391	The user-side T391 link integrity verification polling timer value for the logical port.
Net N392	The network-side N392 error threshold value for the logical port.
Net N393	The network-side N393 monitored events count value for the logical port.
User T392	The network-side T392 polling verification timer value for the logical port.

From the *Frame Relay Port Configuration* dialog box, you can define new Frame Relay logical ports, view and edit the properties of existing Frame Relay logical ports, and delete Frame Relay logical ports.

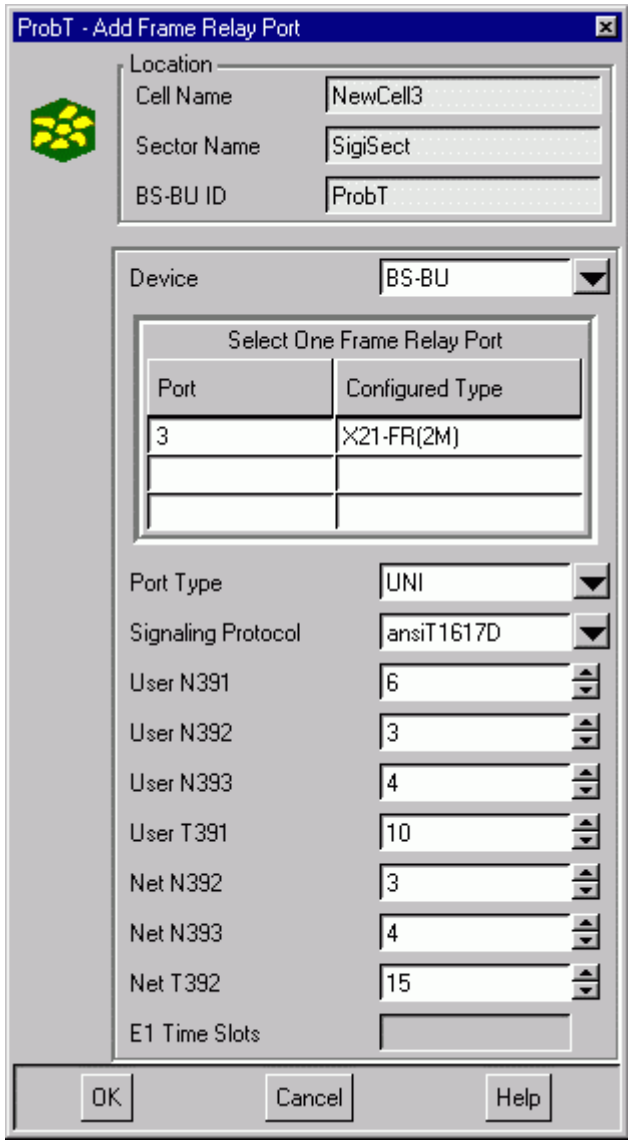
Adding Frame Relay Ports

Frame Relay logical ports are defined from the *Frame Relay Port Configuration* dialog box when it is accessed from Base Station BU View, Terminal Station BU View, or from the WALKnet Main window.

To add Frame Relay ports:

1 In the *Frame Relay Port Configuration* dialog box, from the *Port* menu, select **Add**. The *Add Frame Relay Port* dialog box is displayed as shown below:

Figure 7-18: Add Frame Relay Port Dialog Box



2 When the *Frame Relay Port Configuration* dialog box has been accessed from Base Station BU View, select the BS-BU or one of its registered TS-BUs from the dropdown list in the **Device** field.

Notes

When the Frame Relay Port Configuration dialog box has been accessed from Terminal Station BU View, the **Device** field is disabled.

3 Select a telecom port from the list of ports in the *Select One Frame Relay Port* area. This list only displays those ports in the selected device that have a **Configured Type** of **FR**.

4 When the selected device is a BS-BU, select **UUNI**, **NUNI** or **NNI** as the port type from the dropdown list in the **Port Type** field.

5 Select values from the dropdown lists in the remaining fields, as required.

6 When the Frame Relay port is defined over an E1-FR telecom card and the Line Type is Unframed, enter the E1 time slot (1 to 31) allocated for the specified Frame Relay port in the **E1 Time Slots** field. You can enter a number and/or ranges separated by commas, for example, 1, 2, 3-15, 30-32.

7 Click **OK**. The new Frame Relay port is displayed in the Frame Relay Port Configuration dialog box.

Editing Frame Relay Ports

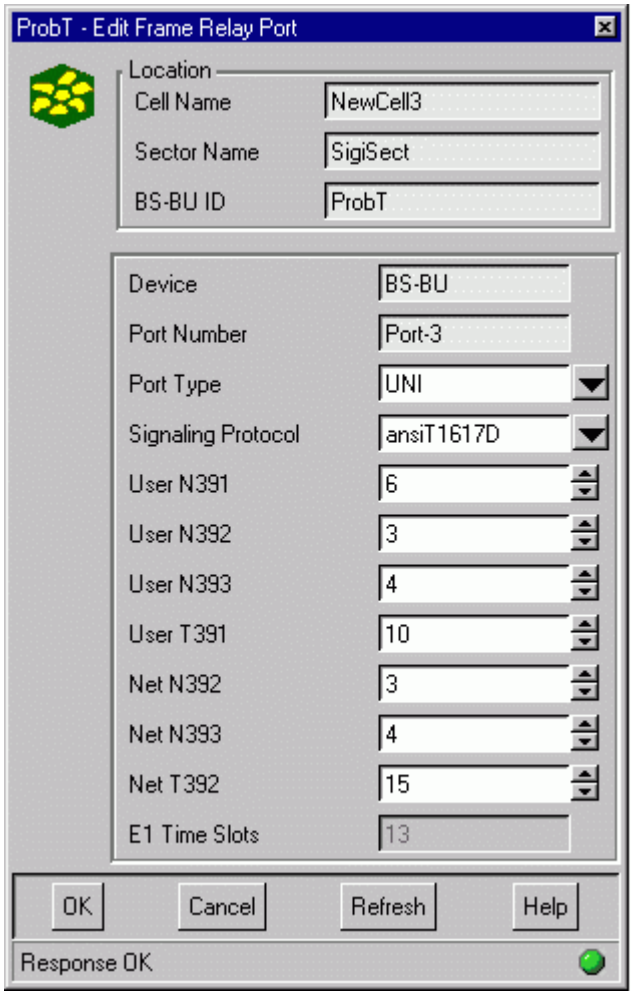
The properties of an existing Frame Relay port can be modified when its administrative status is **Disable**, and there are no Frame Relay services defined over the port.

To edit Frame Relay ports:

1 In the *Frame Relay Port Configuration* dialog box, select an existing Frame Relay port.

2 From the *Port* menu, select **Edit**. The *Edit Frame Relay Port* dialog box is displayed as shown below:

Figure 7-19: Edit Frame Relay Port Dialog Box



3 Modify the fields, as required, and click **OK**.

Deleting Frame Relay Ports

Frame Relay ports can be deleted when there are no Frame Relay services defined over the port.

To delete Frame Relay ports:

1 In the *Frame Relay Port Configuration* dialog box, select an existing Frame Relay port.

2 From the *Port* menu, select **Delete**. The selected port is deleted.

Frame Relay/Ethernet Service Configuration

The WALKair Frame Relay/Ethernet service is presented by the PVC connection established between the port on the BS-BU and the port on the TS-BU, and is identified by DLCI. In the current version, the BS-BU and TS-BU DLCI involved in the connection have the same value.

Frame Relay/Ethernet services are defined in the Frame Relay/Ethernet Service dialog box.

To access the Frame Relay/Ethernet Service dialog box:

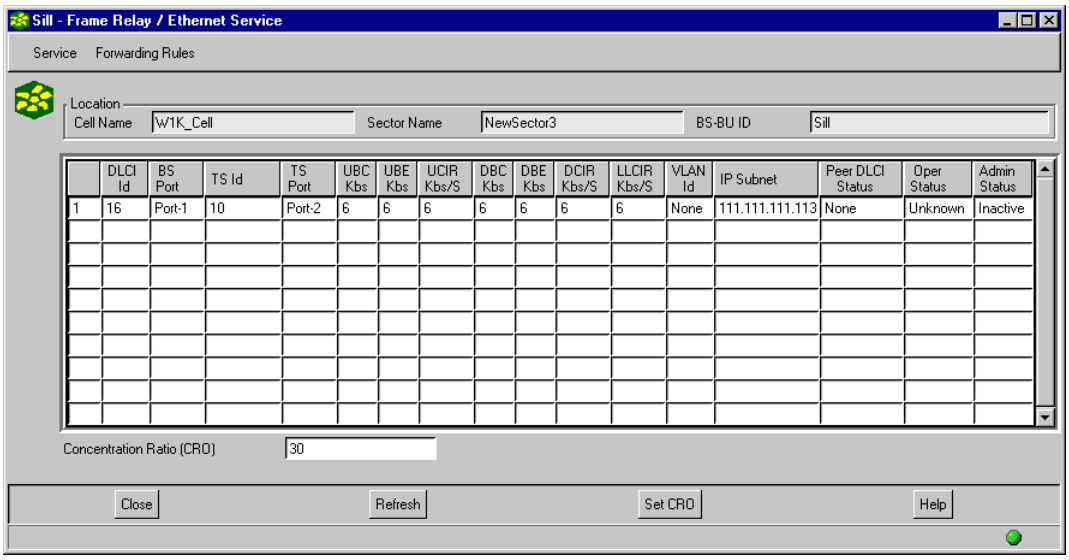
The *Frame Relay/Ethernet Service* dialog box is accessed in one of the following ways:

- In Base Station BU View, from the *BS-BU* menu, select **Services**, then **Frame Relay/Ethernet Configuration** and then **Frame Relay/Ethernet Service**.

- In the Main window, in the *Browse BS-BU* dialog box, select **Services**, then **Frame Relay/Ethernet Configuration**, then **BS-BU**, and then **Frame Relay/Ethernet Service** from the *Configuration* menu. Browse to the required BS-BU, and click **OK**.

  The Frame Relay/Ethernet Service dialog box is displayed as shown below:

Figure 7-20: Frame Relay/Ethernet Service Dialog Box



The *Frame Relay/Ethernet Service* dialog box displays all the connections defined on the selected BS-BU, and TS-BUs registered to the BS-BU.

The *Frame Relay/Ethernet Service dialog box* includes the following read-only fields:

Location area	
Cell Name	The name of the cell for which this BS-BU has been defined..
Sector Name	The name of the sector for which this BS-BU has been defined.
BS-BU ID	The system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is specified in the *BS-BU Properties Edit* dialog box.
List of Connections	
FR Service Number	Frame Relay service identifier.
DLCI Id	The DLCI value for the PVC end-point on the BS-BU or TS-BU.
BS Port	The BS-BU telecom port participating in the connection: **Port-1**, **Port-2** or **Port-3**.
TS Id	The customer ID number of the TS-BU.
TS Port	The TS-BU telecom port participating in the connection.
UBC Kbits	The Committed Burst size (measured in Kbits) for the PVC end-point in the uplink direction.
UBE Kbits	The Excess Burst size (measured in Kbits) for the PVC end-point in the uplink direction.
UP-CIR Kbits/Sec	The Committed Information Rate (measured in Kbits per second) for the PVC end-point in the uplink direction.
DBC Kbits	The Committed Burst size (measured in Kbits) for the PVC end-point in the downlink direction.
DBE Kbits	The Excess Burst size (measured in Kbits) for the PVC end-point in the downlink direction.

DOWN-CIR Kbits/Sec	The Committed Information Rate (measured in Kbits per second) for the PVC end-point in the downlink direction.
LLCIR Kbits/S	The Leased Line Committed Information Rate (measured in Kbits per second) for the PVC end?point. This bandwidth is permanently allocated for the service.
VLAN ID	The identification of the virtual LAN. This field is only enabled when service is defined over Ethernet.
IP Subnet	The IP address of the IP subnet related to this Frame Relay connection. This field is only enabled when service is defined over Ethernet.
Peer DLCI Status	When the **Port Type** is **UUNI** or **NUNI**, the **Peer DLCI Status** is **None**. When the **Port Type** is **NNI**, the **Peer DLCI Status** is **Deleted**, **Active**, **Inactive** or None.
Oper Status	The operational status of the PVC connection.
Admin Status	The administrative status of the PVC connection: **Active** or **Inactive**.
Concentration Ratio (CRO)	The quality of service for the DLCIs with CIR equal to 0. QOS is supplied according to the following rule: if CRO is n, for each n DLCIs with CIR = 0, a single ATS (64 K) is allocated.

Adding Frame Relay/Ethernet Services

Frame Relay/Ethernet services can only be defined when the *Frame Relay/Ethernet Service* dialog box is accessed from Base Station BU View or from the WALKnet Main window.

Notes

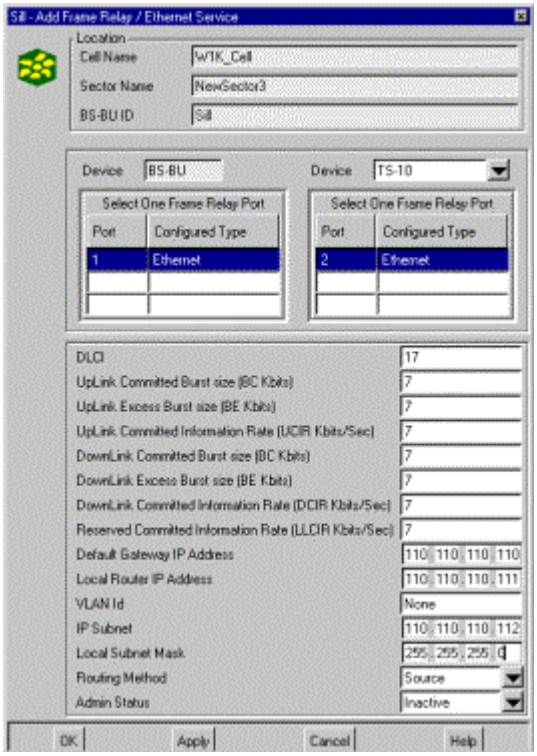
Ensure that you have first defined Frame Relay logical ports on the BS-BU and on the TS-BU.

To add Frame Relay/Ethernet services:

1 Access the *Frame Relay/Ethernet Service* dialog box from Base Station BU View or from the WALKnet Main window.

2 From the *Service* menu, select **Add**. The **Add Frame Relay/Ethernet Service** dialog box is displayed as shown below:

Figure 7-21: Add Frame Relay Service Dialog Box



3 Select a telecom port from the list of ports configured as Frame Relay or Ethernet ports on the BS-BU in the left *Select One Frame Relay Port* area.

4 Select a registered TS-BU from the dropdown list in the **Device** field.

5 Select a telecom port from the list of ports configured as Frame Relay or Ethernet ports on the selected TS-BU in the right *Select One Frame Relay Port* area.

6 Enter a unique DLCI in the **DLCI** field. If you select an Ethernet port on both sides (BS-BU and TS-BU), WALKnet automatically assigns the first free DLCI number. You can change the assigned DLCI number, if required.

7 Enter values in the BC, BE and CIR fields for the uplink and downlink traffic. Refer to page "Frame Relay/Ethernet Service Configuration" on page 7-34 for a description of these fields.

8 When the service is defined over Ethernet (meaning an Ethernet port is selected for at least one side), enter values in the remaining fields, as follows:

Default Gateway IP Address	The IP address of the gateway used to send non?local IP traffic. This field is mandatory.
Local Router IP Address	The IP address of the router used on the local LAN (if it exists).
VLAN Id	The identification of the virtual LAN. This is used in case of VLAN Tag - DLCI Mapping. Enter **None** if a VLAN ID is not used.
IP Subnet	The IP address of the local LAN.
Local Subnet Mask	The IP subnet mask of the local LAN.
Routing Method	This is used in the case of DLCI - IP subnet mapping. When **Source** is selected, the source IP address is used for mapping and when **Destination** is selected, the destination IP address is used for mapping.

9 Select **Active** or **Inactive** as the administrative status of the service in the **Admin Status** field.

10 Click **OK**. The new Frame Relay/Ethernet service is displayed in the *Frame Relay/Ethernet Service* dialog box.

Editing Frame Relay/Ethernet Services

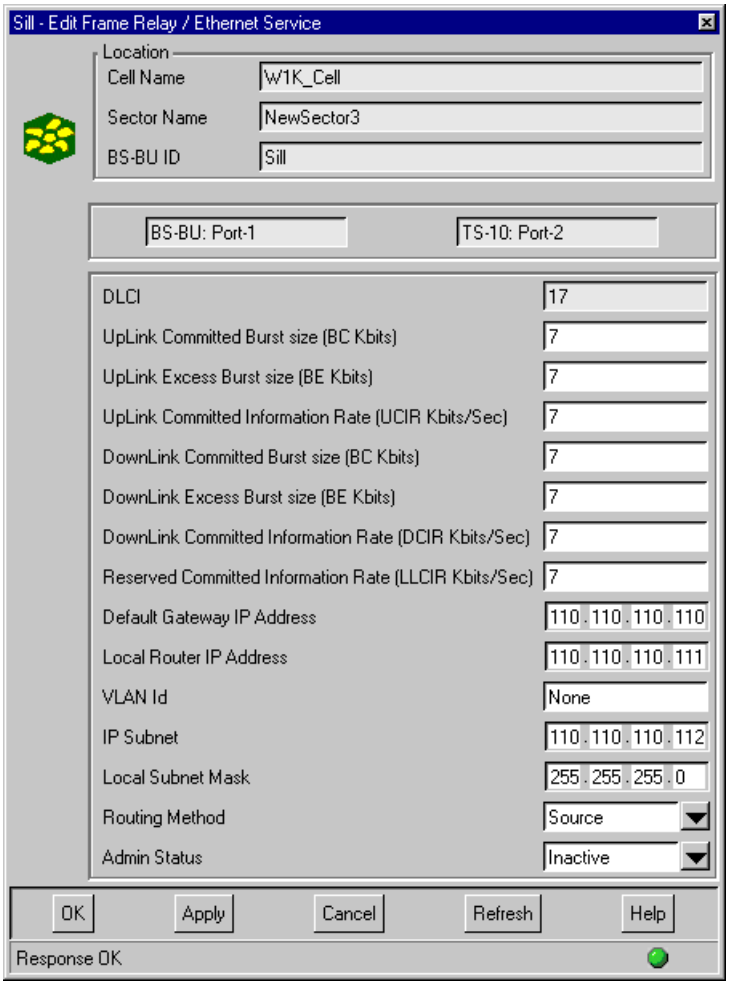
The properties of a Frame Relay/Ethernet service can be modified as required.

To edit Frame Relay/Ethernet services:

1 In the *Frame Relay/Ethernet Service* dialog box, select an existing service from the list of services.

2 From the *Service* menu, select **Edit**. The *Edit Frame Relay/Ethernet Service* dialog box is displayed as shown below:

Figure 7-22: Edit Frame Relay/Ethernet Service Dialog Box



3 When the service is defined over Ethernet, modify all fields as required. Otherwise, the Ethernet-related fields are disabled.

4 Click **OK**.

Deleting Frame Relay/Ethernet Services

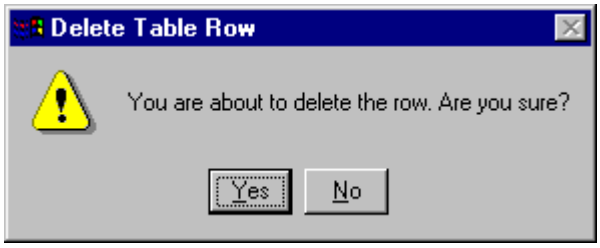
5 You can delete Frame Relay/Ethernet services, as required.

To delete Frame Relay/Ethernet services:

1 In the *Frame Relay/Ethernet Service* dialog box, select an existing service with an **Inactive** administrative status from the list of Frame Relay/Ethernet services.

2 From the *Service* menu, select **Delete**. The Delete Table Row confirmation message is displayed as shown below:

Figure 7-23: Delete Table Row Confirmation Message



3 Click **Yes** to delete the Frame Relay/Ethernet service.

Configuring Quality of Service

WALKnet enables you to define Quality of Service (QoS) for Frame Relay/Ethernet services. You can define global QoS parameters and specific QoS parameters for individual services.

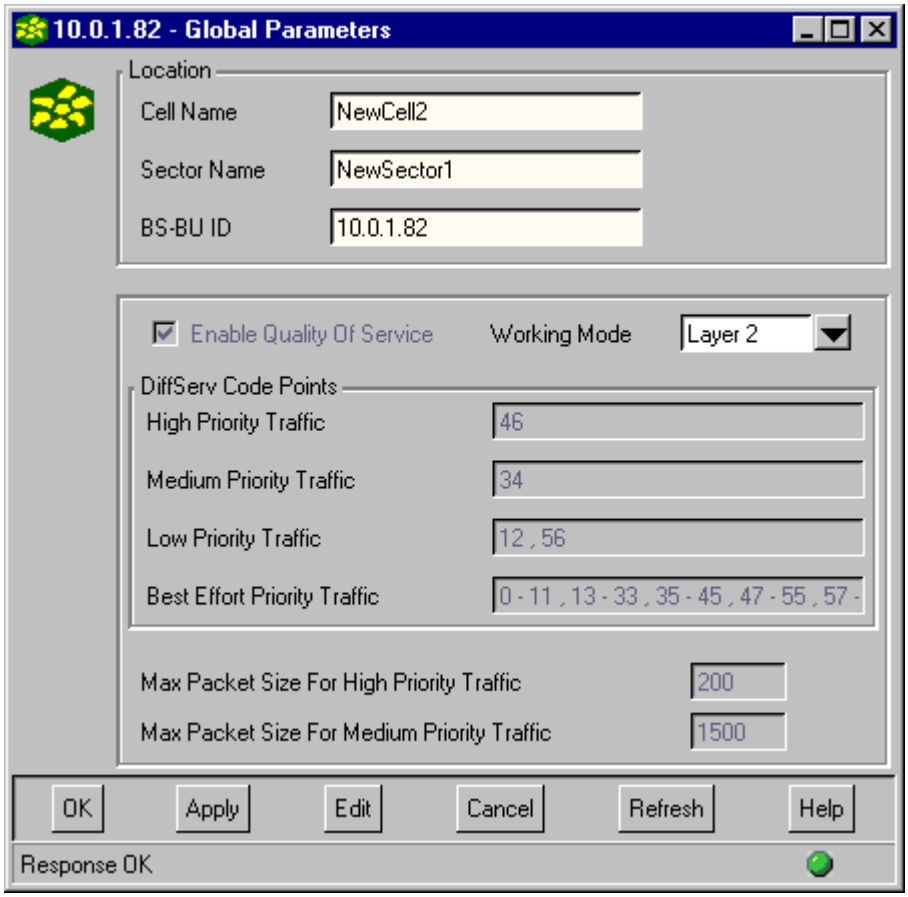
Global QoS Parameters

The global QoS parameters apply system-wide. You can enable QoS and then specify the DiffServer Code Points for different traffic priority and maximum packet size for high and medium priority traffic.

To configure global QoS parameters:

1 From the *Forwarding Rules* menu in the *Frame Relay/Ethernet Service* dialog box, select **Global Parameters**. The *Global Parameters* dialog box is displayed as shown below:

Figure 7-24: Global Parameters Dialog Box



2 Click **Edit**.

Notes

When **Edit** is not clicked, the parameters are read-only and their values are automatically refreshed. When **Edit** is clicked, the parameters can be modified and automatic refresh is disabled.

3 Select the **Enable Quality Of Service** checkbox to enable QoS. The remaining parameters become enabled.

4 Select the Ethernet card **Working Mode** from the drop-down list: either **Layer 2** or **Layer 3**.

5 Enter values in the **DiffServ Code Points** area to determine the DiffServer Code Points for high, medium, low and best effort priority traffic. You can enter a single number, multiple single numbers (separated by a comma), a range of numbers (for example, 1-64) or a combination of these.

6 In the **Max Packet Size For High Priority Traffic** field, enter the maximum packet size (**64** to **1500**) permitted for high priority traffic.

7 In the **Max Packet Size For Medium Priority Traffic** field, enter the maximum packet size (**64** to **1500**) permitted for medium priority traffic.

8 Click **OK** to apply the global QoS parameters.

Service QoS Parameters

WALKnet enables you to define QoS parameters for individual Frame Relay/Ethernet services.

To configure service QoS parameters:

1 In the *Frame Relay/Ethernet Service* dialog box, select an existing service from the list of Frame Relay/Ethernet services.

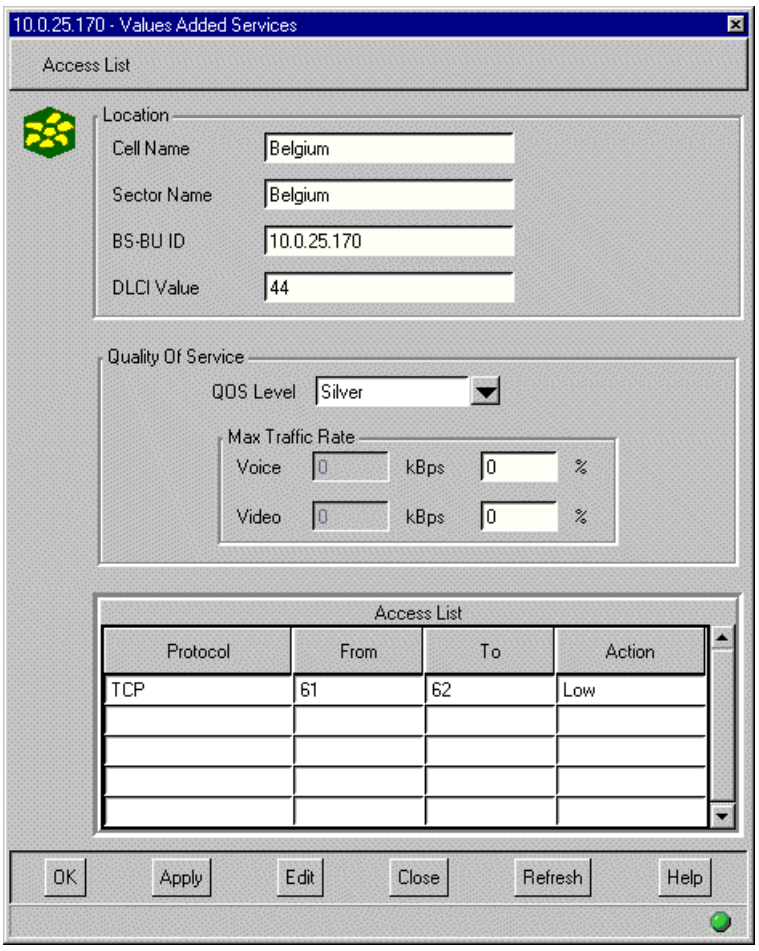
2 From the *Forwarding Rules* menu, select **Value Added Service**. The *Value Added Services* dialog box is displayed as shown below.

3 Click **Edit**.

Notes

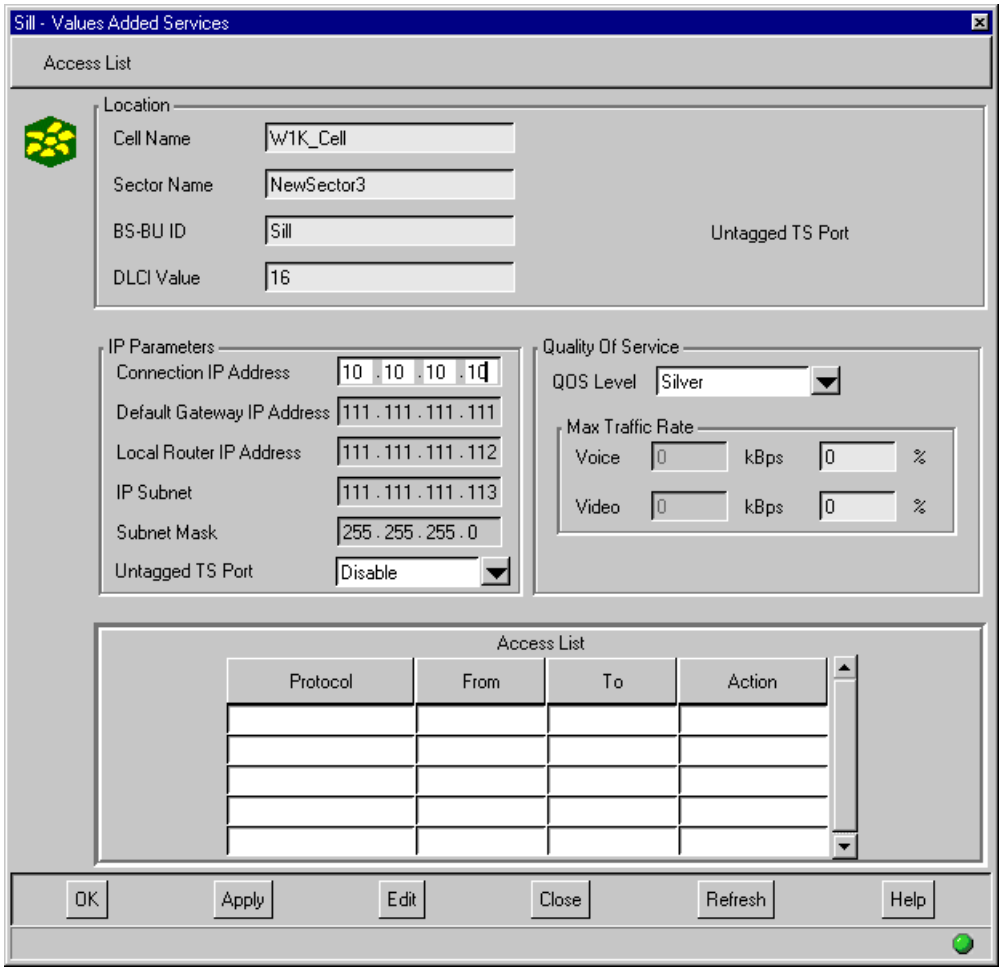
When **Edit** is not clicked, the parameters are read-only and their values are automatically refreshed. When **Edit** is clicked, the parameters can be modified and automatic refresh is disabled.

Figure 7-25: Value Added Services Dialog Box



In the above example, the selected service is defined over Frame Relay. When the selected service is defined over Ethernet, the *Value Added Services* dialog box includes an additional **IP Parameters** area that displays read-only IP parameters of connections as shown below.

Figure 7-26: Value Added Services Dialog Box (Ethernet)



4 In the **QOS Level** field, select the required QoS level from the dropdown list. The available levels are **Platinum**, **Gold**, **Silver** and **Bronze**.

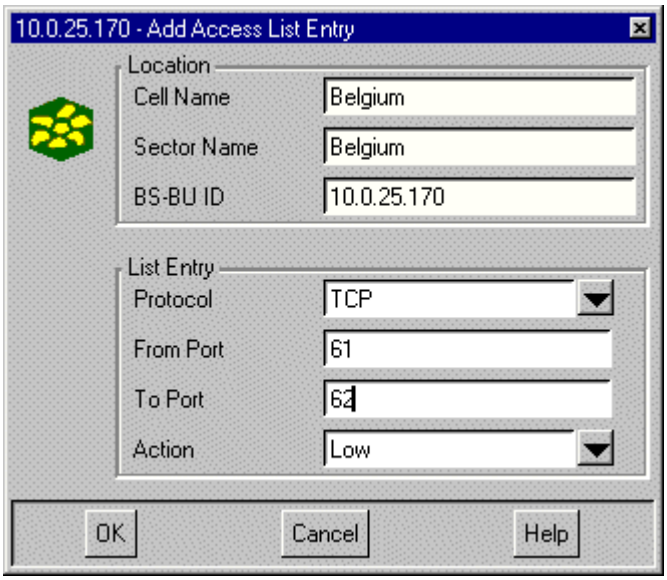
5 In the **Max Traffic Rate** area, enter the maximum rates for voice and video traffic. When **Silver** or **Bronze** is selected as the QOS Level, the fields in the **Max Traffic Rate** area are read-only. When **Gold** is selected as the **QOS Level**, the **Voice** field in the **Max Traffic Rate** area is read-only.

Notes

The value in the **%** field, automatically calculated, is the maximum traffic rate as a percentage of the minimum of UCIR and DCIR.

6 In the **Access List** area, you can define the prioritization and filtering of traffic by specifying a particular action for certain types of traffic. For example, you might want WALKair to limit access to TCP/IP data. To add an entry to the **Access List** table, select **Add** from the *Access List* menu. The *Add Access List Entry* dialog box is displayed as shown below.

Figure 7-27: Add Access List Entry Dialog Box



7 In the **Protocol** field, select the protocol type from the dropdown list. The available protocol types are **TCP**, **UDP**, **FTP**, **TFTP**, **SMTP**, **Telnet**, **HTTP**, **SNMP/SNMP Trap**, **ICQ** and **NETBIOS**.

8 When you select **TCP** or **UDP** as the protocol, specify the range of port numbers in the **From Port** and **To Port** fields.

9 In the **Action** field, select the action to be performed on the defined traffic from the dropdown list. The available options are as follows:

- ◇ **High**: Give the traffic high priority
- ◇ **Medium**: Give the traffic medium priority
- ◇ **Low**: Give the traffic low priority
- ◇ **Best Effort**: Give the traffic best effort priority
- ◇ **Blocked**: Drop the traffic

The availability of these actions depends on the **QOS Level** selected in the *IP Value Added Services* dialog box, as follows:

QOS Level	Actions Available
Platinum	All
Gold	Medium, Low, Best Effort, Block
Silver	Low, Best Effort, Block
Bronze	Block

10 Click **OK**. The definitions are added as an entry in the **Access List** table.

Notes

You can delete entries in the **Access List** table by selecting an entry and selecting **Delete** from the *Access List* menu.

11 Click **OK** in the *IP Value Added Services* dialog box to apply the QoS parameters to the selected service.

WALKair 3000 Client Management

Client records contain information about the customer such as name, location, textual identification of the contact person, together with the information on how to contact this person, and so on.

WALKair 3000 system supports a maximum of 4000 clients. The user can define up to 64 clients on a single TS. Each client belongs to a specific TS.

You can configure the client details and change the client services via the *Client List* dialog box.

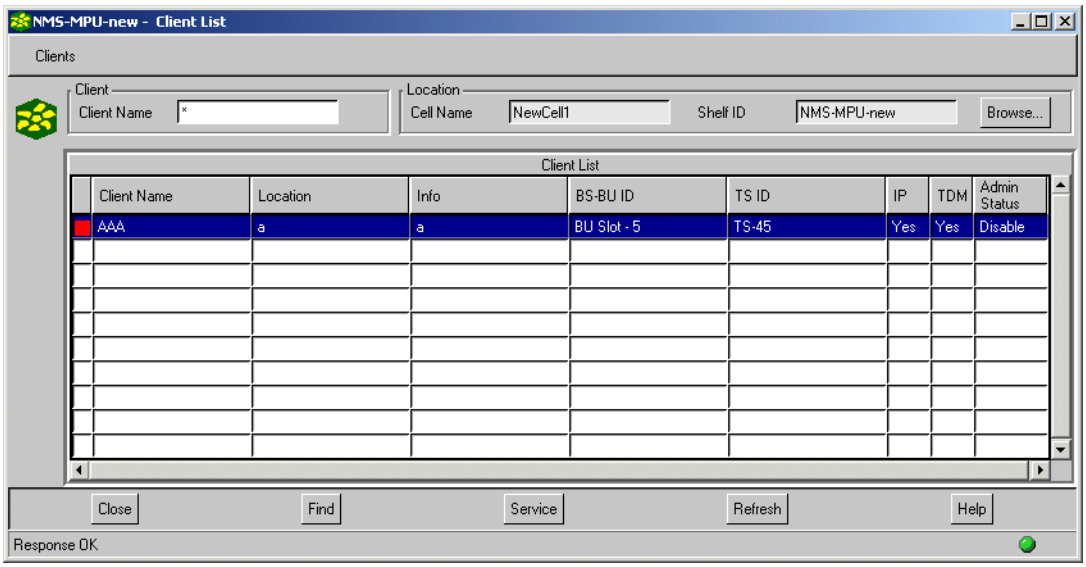
To access the Client List dialog box:

The Client list dialog box is accessed in one of the following ways:

- **Shelf BS-BU** or **Stand Alone BS-BU** - In the Main window - select **Clients and Services** from the *W3000 Services* submenu of the *Configuration* menu. Browse to the required shelf or Stand-Alone BS-BU in the *Browse Shelf* dialog box and click **OK**.
- **Shelf BS-BU only** - In Sector View - select **Clients and Services** from the *Services* submenu of the *Shelf* menu.
- **Shelf BS-BU only** - In Shelf View - select **Clients and Services** from the *Services* menu.
- **Stand-Alone BS-BU only** – In BS-BU View, select **Clients and Services** from the Services menu

The *Client List* dialog box is displayed as shown below.

Figure 7-28: Client List Dialog Box



For a Stand-Alone BS-BU, the Sector name appears instead of the Shelf ID.

To display clients:

1 To display all clients currently defined on the current shelf leave the **Client Name** field empty or enter the wildcard symbol (*).

2 To display one or several clients enter the Client Name or several letters of the Client Name in the **Client Name** field of the *Client* area. You can enter the wildcard symbol (*) at the end of the string. It is assumed to be there by default even if you do not enter it explicitly.

3 Click the **Find** button.

Notes

In the **Client Name** field, you can only enter English letters, spaces and wildcard symbols. The data in the **Client Name** field is converted automatically to uppercase English letters when the user clicks the **Find** button.

The *Client List* dialog box displays a list of clients. It includes the following read-only fields:

Location area	
Cell Name	The name of the cell for which this shelf has been defined.
Shelf ID	The system name, if defined, of the shelf or Stand-Alone BS-BU, or, when no system name is defined, the IP address of the shelf.
Sector	The system name, if defined, of the Stand-Alone BS-BU or, when no system name is defined, the IP address.
Client List	
Small square	Indicates the client's service status: **Green** - All services function properly. **Red** - One or more services failed. **Gray** - There are no services defined.
Client Name	The administratively assigned name for this Client. By convention, this is the fully qualified name in UPPERCASE.
Location	The physical location of this Client (e.g. Client's address).
Info	The textual identification of the contact person, together with the information on how to contact this person (e.g. Client's Phone number).
BS-BU ID	The system name, if defined, of the BS-BU or, when no system name is defined, the Carrier Index of the BS-BU.
TS ID	The system name, if defined, of the TS or, when no system name is defined, the Customer Id of the TS.
IP	Defines whether a Client has at least one IP service defined: **Yes** or **No**.
TDM	Defines whether a Client has at least one TDM service defined: Yes or **No**.
Admin	The administrative status of the client: **Enable** or **Disable**.

From the *Client List* dialog box, you can add new clients and edit or delete existing clients.

Adding Clients

When adding clients, you specify the Client Name, Location, Information, BS-BU ID, TS ID and Administrative Status.

To add a client:

1 In the *Client List* dialog box, select **Add** from the *Clients* menu. The *Add Client* dialog box is displayed as shown below, for a Shelf and for a Stand-Alone BS-BU.

Figure 7-29: W3000 Shelf BS-BU Add Client Dialog Box

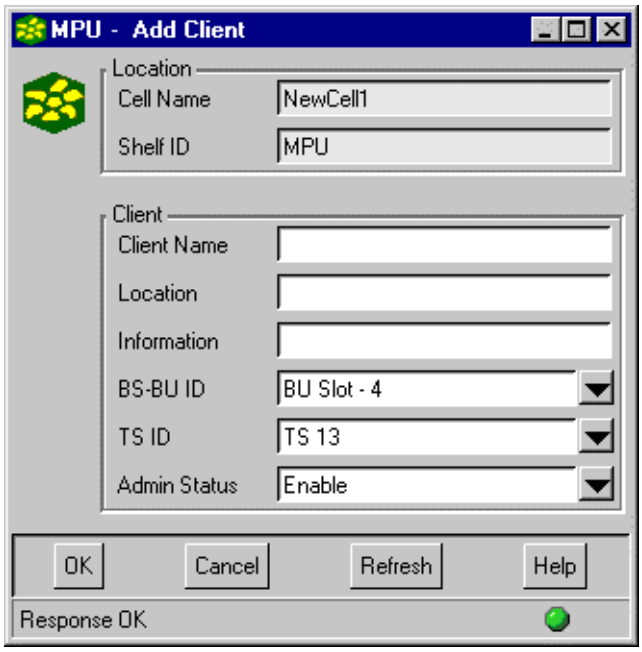
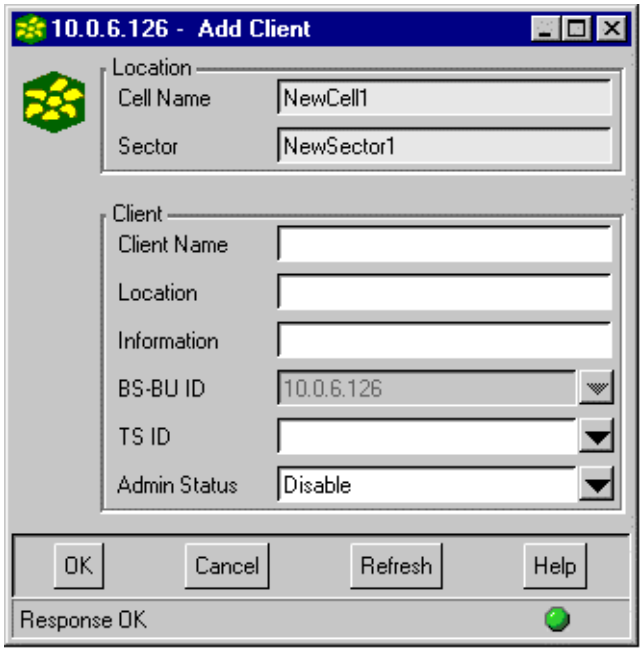


Figure 7-30: W3000 Stand-Alone BS-BU Add Client Dialog Box



Notes

For a Stand-Alone BS-BU, the Sector name appears instead of the Shelf ID and the BS-BU ID drop-down list is grayed.

2 In the *Location* area the **Cell Name** field is the read-only field that displays the name of the cell for which the shelf or Stand-Alone BS-BU is defined.

The **Shelf ID** field (Shelf only) displays the system name if defined for the shelf or, when no system name is defined, the IP address of the shelf.

The **Sector** field (Stand-Alone BS-BU only), displays the system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU.

3 In the **Client** area,

- ◇ Enter an administratively assigned name for this Client in the **Client Name field**.
- ◇ Enter a physical location for this Client (e.g. Client's address) in the **Location** field.

◇ Enter the textual identification of the contact person, together with the information on how to contact this person (e.g. Client's Phone number) in the **Information** field.

4 **Shelf only** - Select the BS-BU for the client from the dropdown list in the **BS-BU ID** field. The TS ID dropdown list is automatically filled with the configured TSs of this BS-BU and blank value is displayed by default.

5 Select the TS for the new client from the dropdown list in the **TS ID** field.

6 Select the administrative status of the new client by selecting **Enable/Disable** from the dropdown list in the **Admin Status** field.

7 Click **OK**. The new client is displayed in the *Client List* dialog box.

Notes

In the **Client Name** field, you can only enter English letters, spaces and wildcard symbols. The data in the **Client Name** field is converted automatically to uppercase English letters when the user clicks the **OK** button.

Editing Clients

The Location, Information and Administrative Status of an existing client can be edited.

To add a client:

1 In the *Client List* dialog box, select a client from the list.

From the *Clients* menu, select **Edit**. Double Click on the line in the table identical to the Edit selected line option. The *Client Properties Edit* dialog box is d

Figure 7-31: Client Properties Edit Dialog Box

2 Modify the **Location** and **Information** fields in the *Client* area, as required.

3 Modify the administrative status of the client by selecting **Enable/Disable** from the dropdown list in the **Admin Status** field, as required.

4 Click **OK** or **Apply**.

Deleting Clients

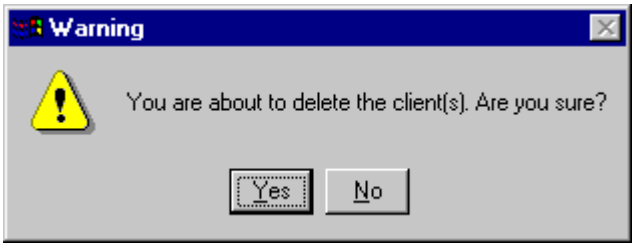
To delete a client from the system, all services defined for this client should be deleted first.

To delete clients:

1 In the *Client List* dialog box, select an existing client(s) from the list of clients (multiple selections enabled).

2 From the *Clients* menu, select **Delete**. The Delete Client confirmation message is displayed as shown below:

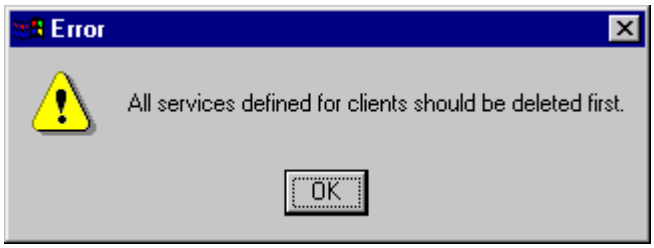
Figure 7-32: Delete Client Confirmation Message



3 Click **Yes** to delete the selected clients.

4 The Delete Client Error message box appears if any of the selected clients have services:

Figure 7-33: Delete Client Error Message



5 Click **OK** to delete only the clients without services from the list of selected clients.

Notes

To delete a client from the system, all services defined for this client are deleted first.

WALKair 3000 IP SLA Management

The Service Level Agreement (SLA) defines the template of parameter values that is selected during the definition of an IP service for a client.

A WALKair 3000 system supports up to 1024 IP SLA. The user can define up to 16 IP SLA on a specific TS. Each IP SLA is associated with a specific TS.

You can configure an IP SLA details via the *IP SLA List* dialog box.

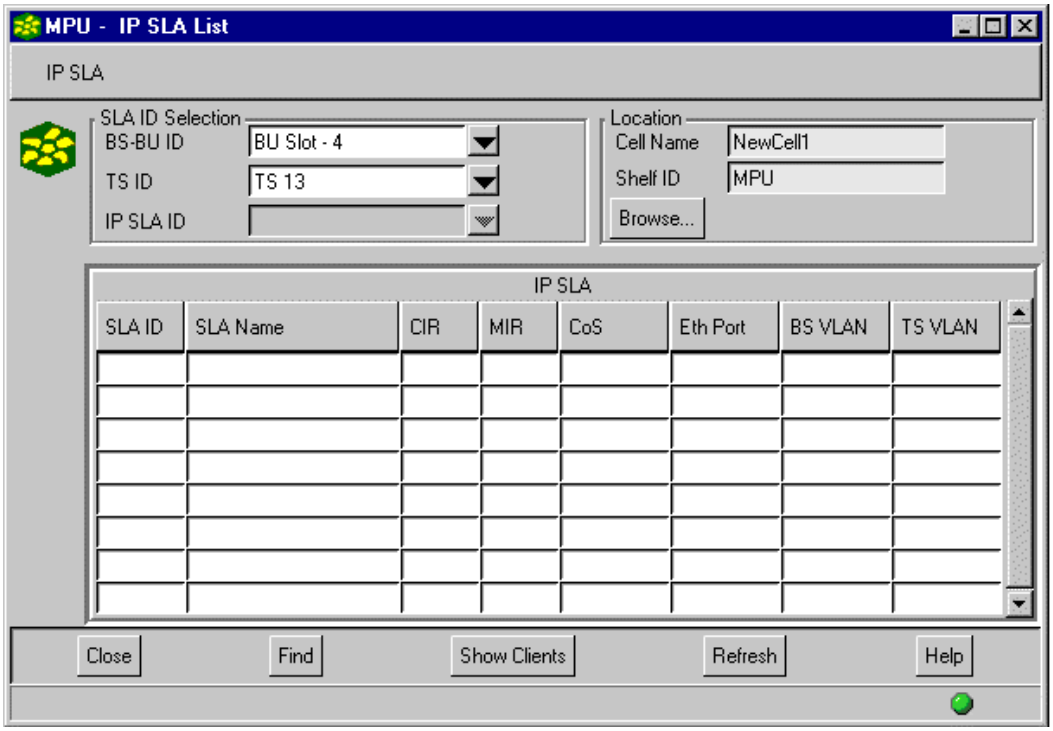
To access the IP SLA List dialog box:

The IP SLA list dialog box is accessed in one of the following ways:

- **Shelf BS-BU** - In Sector View, select Shelf menu then select IP SLA from the SLA submenu of the Services menu.
- **Shelf or Stand Alone BS-BU**- In the Main window, select Configuration menu then select IP SLA from the SLA submenu of the W3000 Services menu. Browse to the required BS-BU in the Browse dialog box and click OK.
- **Shelf BS-BU** - in Shelf View, select IP SLA from the SLA submenu of the Services menu.
- **Stand-Alone BS-BU only** - In BS-BU View, select SLA, IP SLA from the Services menu.

The IP SLA List dialog box is displayed as shown below.

Figure 7-34: IP SLA List Dialog Box (Shelf)



Notes

For a Stand-Alone BS-BU, the Sector name appears instead of the Shelf ID and the BS-BU ID drop-down list is grayed.

.

To display IP SLA:

1 After opening the *IP SLA* List dialog box, select the BS-BU from the dropdown list in the **BS-BU ID** field

2 Select the TS from the dropdown list in the **TS ID** field.

3 To display all IP SLAs currently defined on the selected BS-BU and TS, select **All** from the dropdown list in the **IP SLA ID** field.

4 To display one IP SLA defined on the selected BS-BU and TS, select **IP SLA ID** from the dropdown list in the **IP SLA ID** field.

5 Click the **Find** button.

Notes

The **IP SLA ID** field is disabled when there are no IP SLAs on the selected BS-BU and TS.

The IP SLA List dialog box displays a list of IP SLA currently defined on the selected BS-BU and TS. This list includes the following read-only fields:

Location area	
Cell Name	The name of the cell for which this shelf has been defined.
Shelf ID	(W3000 Shelf only) The system name, if defined, of the shelf or, when no system name is defined, the IP address of the shelf.
Sector	(W3000 Stand-Alone BS-BU only) The name of the sector in which the unit is defined.
SLA ID Selection area	
BS-BU ID	The system name, if defined, of the BS-BU or, when no system name is defined, the Carrier Index of the BS-BU.
TS ID	The system name, if defined, of the TS or, when no system name is defined, the Customer ID of the TS.
IP SLA ID	The number of the SLA for the IP Data service.
List of IP SLA	
SLA ID	The number of the SLA for the IP Data service. Up to 16 SLA for IP Data services can be defined on a particular TS. The SLA ID is unique for this TS.
SLA Name	The SLA description set by an Operator.

CIR

The summarized SLA Committed Information Rate. This rate is calculated as the sum of all CIR(s) assigned for all clients that share this SLA for IP services.

The value of this parameter is N, when the actual CIR equals to N*256 Kbps.

This defines the committed information rate for all the IP traffic. The system guarantees this rate to be transferred in the air.

MIR

This parameter defines the maximum rate for this pipe, provided that free BW is available for allocation to it. The pipe rate cannot exceed this number.

The value of this parameter is N, when the actual MIR equals to N*256 Kbps

CoS

This parameter defines the Class of Service of this SLA. Four classes of service are defined for an IP SLA. Each class of service is mapped to the number of an IP traffic priority supported by this SLA:

Bronze - CIR is always zero; all traffic is UBR and is mapped to a non compliant traffic queue. This traffic is forwarded to the air only if BW is available. This traffic cannot exceed the MIR defined in the SLA.

Silver - The SLA has a CIR greater then zero, IP traffic that is compliant with the CIR is forwarded to a low priority guaranteed queue. All traffic exceeding the CIR and up to the MIR is mapped to a non-compliant traffic queue as in the Bronze class.

Gold - The SLA has a CIR greater then zero, and IP traffic that is compliant with the CIR is forwarded to a second priority guaranteed queue mapped according to the ToS bits of the packet. All traffic exceeding the CIR and up to the MIR is mapped to a non-compliant traffic queue as in the Bronze class.

Platinum - The SLA has a CIR greater then zero, and IP traffic that is compliant with the CIR is forwarded to a maximum priority guaranteed queue mapped according to the ToS bits of the packet. All traffic exceeding the CIR and up to the MIR is mapped to a non-compliant traffic queue as in the Bronze class.

Eth port

This is a number of the Ethernet port (one of the four Ethernet ports) on the TS which the SLA serves.

VLAN

A unique VLAN Id is defined for each SLA. The VLAN ID has the following structure:

Bits 11, and 10 are constantly binary 10

Bits 9-4 are the TS number (0-63)

Bits 3-0 are the SLA number (16-31)

From the *IP SLA List* dialog box, you can add a new IP SLA and edit or delete an existing IP SLA.

Notes

The IP SLA Add, Edit and Delete menu items are disabled until you select the BS-BU ID and TS ID.

The IP SLA Add, Edit and Delete menu items are disabled until you select the BS-BU ID and TS ID.

Adding IP SLA

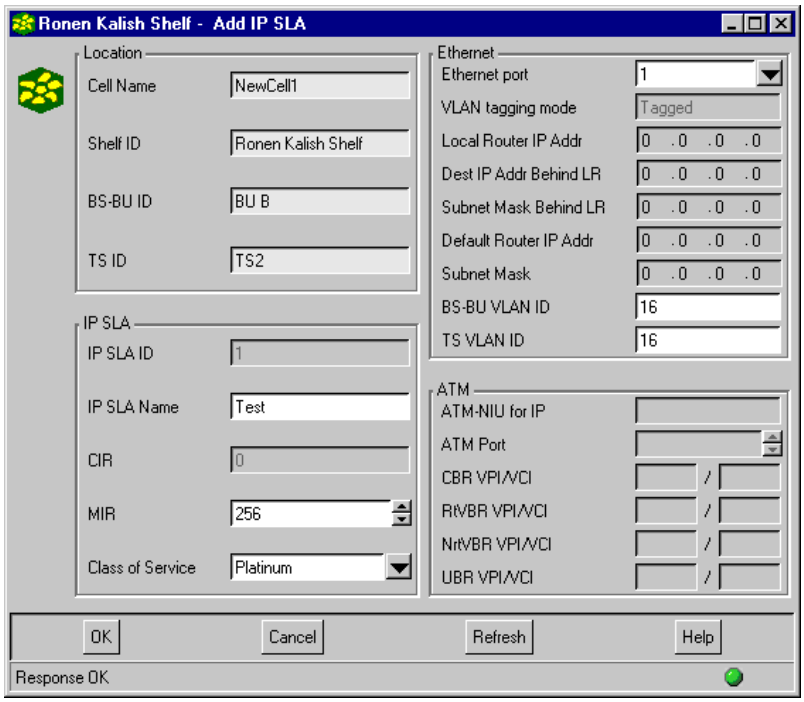
Before adding a IP SLA, ports must be defined on the BS-BU and on the TS-BU.

When adding an IP SLA, you specify the IP SLA Name, Maximum Information Rate (MIR), Class of Service (CoS), Local and Default router IP address, and Subnet Mask and Ethernet port number on the TS. If a connection is established via ATM-NIU card (W3000 Shelf only), you can specify the VPI(s)/VCI(s) values. If a connection is established via a BS-BU's Ethernet port, **VPI(s)/VCI(s**) fields are disabled.

To add an IP SLA:

1 The *IP SLA List* dialog box, select **Add** from the *IP SLA* menu. The *Add IP SLA* dialog box is displayed as shown below.

Figure 7-35: Add IP SLA Dialog Box (Shelf)



2 Select the Class of Service from the dropdown list in the **Class of Service** field, select the Ethernet port number from the dropdown list in the **Eth port** field, select the MIR for the new IP SLA using the up/down arrows in the **MIR** field, and enter the values in the remaining fields.

3 If the system is functioning in Layer 2 (bridging) mode, the BS-BU VLAN ID and TS-BU VLAN fields are active in the Add IP SLA Dialog Box. If so, enter the BS-BU VLAN ID and TS VLAN ID.

-Or-

4 If the system is functioning in Layer 3 (basic) mode, skip this step.

Location area (read-only)	
Cell Name	The name of the cell for which this shelf or Stand-Alone BS-BU has been defined.
Shelf ID	**W3000 Shelf only** - The system name, if defined, of the shelf or, when no system name is defined, the IP address of the shelf.
Sector	**W3000 Stand-Alone BS-BU only** - The name of the sector in which the unit is defined.
BS-BU ID	**W3000 Shelf**: The system name, if defined, of the BS-BU or, when no system name is defined, the slot number of the BS-BU. **W3000 Stand-Alone BS-BU** - The system name, if defined, of the BS-BU or, when no system name is defined, the IP Address.
TS ID	The system name, if defined of the TS or, when no system name is defined, the Customer ID of the TS.
IP SLA area	
IP SLA ID	The number of the SLA for the IP Data service. Up to 16 SLA for an IP Data service can be defined on a particular TS. The SLA ID is unique for this TS. This field is read-only.
IP SLA Name	This is IP SLA description.
CIR	Summarized SLA Committed Information Rate. This rate is calculated as the sum of all CIR(s) assigned for all Clients that share this SLA for IP services. This field defines the Committed Information Rate for the entire IP traffic. The system guarantees this rate to be transferred in the air. This field is read-only.
MIR	This parameter defines the Maximum Information Rate this pipe can achieve, providing that free BW is available for allocation to it. The pipe rate cannot exceed this number.
Class of Service	This parameter defines the Class of Service of this SLA: **Platinum**, **Gold**, **Silver** or **Bronze**.
Ethernet area	

Eth port	This is the number of the Ethernet port (one of the four Ethernet ports) on the TS, by which the SLA is served.
VLAN tagging mode	Indicates whether the user's LAN is working with VLAN. This parameter defines whether the VLAN tag is sent in IP packets. This field is read-only.
Local Router IP Addr	Local (LAN) Router IP Address in case the client is connected to the TS via a Router. The router's IP address must be defined.
Dest IP Addr Behind LR	The Destination IP Address behind the Local Router.
Subnet Mask Behind LR	The Subnet Mask behind the Local Router.
Default Router IP Addr	The backbone Default Router IP address. Each SLA can use a different Router on the backbone.
Subnet Mask	The Subnet Mask used in the TS on the client side.
BS-BU VLAN ID	VLAN ID for the BS-BU (field is active for Layer 2)
TS VLAN ID	VLAN ID for the TS-BU (field is active for Layer 2)
Ethernet area	
ATM-NIU for IP	The number of the ATM-NIU card to define IP service connection path. 1 to 16 - indicates the ATM-NIU card slot number. Blank - indicates Ethernet connection. This field is read-only.

ATM port	The ATM-NIU port/interface number required defining the service connection path. This field is read-only.
CBR VPI/VCI	The VCi/VPi defined for level 1. If the ATM-NIU for IP field indicates Ethernet connection, or if the selected Class of Service is not Platinum, this field is read-only and blank.
rtVBR VPI/VCI	The VCI/VPI defined for level 2. If the ATM-NIU for IP field indicates Ethernet connection, or if the selected Class of Service is not Platinum or Gold, this field is read-only.
NrtVBR VPI/VCI	The VCI/VPI defined for level 3. If the ATM-NIU for IP field indicates Ethernet connection, or if the selected Class of Service is Bronze, this field is read-only.
UBR VPI/VCI	The VCI/VPI defined for level 4. If the ATM-NIU for IP field indicates an Ethernet connection, this field is read-only.

5 Click **OK**. The new IP SLA is displayed in the *IP SLA List* dialog box.

Editing IP SLAs

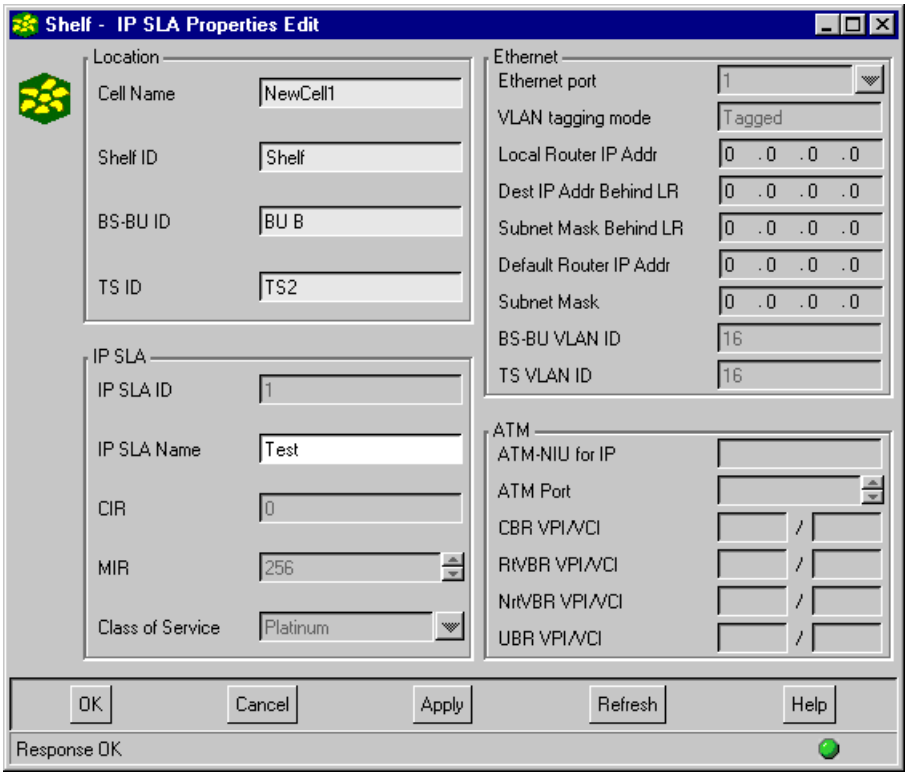
The IP SLA Name, MIR, Class of Service can be edited for W3000 Shelf and W3000 Stand-Alone BS-BU. For W3000 Shelf only, VPI(s)/VCI(s) of existing IP SLAs can be edited.

To add an IP SLA:

1 In the *IP SLA List* dialog box, select an existing IP SLA from the list of IP SLAs.

2 From the *IP SLA* menu, select **Edit**. Double click on the line in the table identical to the Edit selected line option. The *IP SLA Properties Edit* dialog box in edit IP SLA mode appears, as shown below.

Figure 7-36: IP SLA Properties Edit Dialog Box (Shelf)



3 Select the Class of Service from the dropdown list in the **Class of Service** field.

4 Select the Maximum Information Rate for the existing SLA using the arrows in the **MIR** field, if required.

5 If the system is functioning in Layer 2 (bridging) mode, the BS-BU VLAN ID and TS-BU VLAN fields are active in the Add IP SLA Dialog Box. If necessary, edit the BS-BU VLAN ID and TS VLAN ID.

-Or-

6 If the system is functioning in Layer 3 (basic) mode, skip this step.

7 Modify the **IP SLA Name** field in the *IP SLA* area, if required.

8 **Shelf only** - Modify the **VPI(s)/VCI(s)** fields in the *ATM* area, if required, in case the **ATM-NIU for TDM** field indicates ATM-NIU connection.

9 Click **OK** or **Apply**.

Notes

If the **ATM-NIU for IP** field indicates an Ethernet connection, the VPI(s)/VCI(s) fields are all read-only.

If the selected Class of Service is Platinum, all the **VPI(s)/VCI(s)** fields are enabled for editing.

If the selected Class of Service is Gold, the only read-only and blank field is the **CBR VPI/VCI** field.

If the selected Class of Service is Silver, the **CBR VPI/VCI** field and **rtVBR VPI/VCI** fields are read-only and blank.

If the selected Class of Service is Bronze, the **CBR VPI/VCI** field, **rtVBR VPI/VCI** and **nrtVBR VPI/VCI** fields are read-only and blank.

Deleting IP SLAs

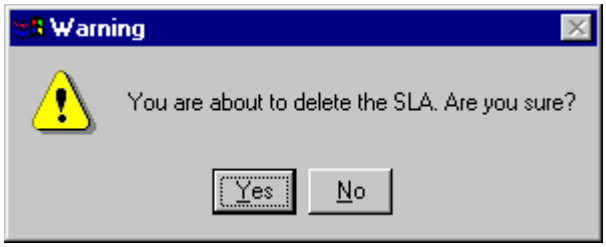
To delete an IP SLA from the system, all services defined for this IP SLA are first deleted.

To delete an IP SLA:

1 In the *IP SLA List* dialog box, select an existing IP SLA from the list of IP SLAs.

2 From the *IP SLA* menu, select **Delete**. The Delete IP SLA confirmation message is displayed as shown below:

Figure 7-37: Delete IP SLA Confirmation Message



3 Click **Yes** to delete the selected IP SLA.

4 The Delete IP SLA Error message box appears if the selected IP SLA has services:

Figure 7-38: Delete IP SLA Error Message

5 Click **OK** and delete services before SLA removal.

Notes

To delete an IP SLA from the system, all services defined for this IP SLA are first deleted.

WALKair 3000 TDM SLA Management

The Service Level Agreement (SLA) defines the template of parameter values that are selected during the definition of TDM service to a client.

WALKair 3000 entire system supports up to 1024 TDM SLA. The user can define up to 16 TDM SLA on a single TS. Each TDM SLA belongs to a specific TS.

You can configure the TDM SLA details via the TDM SLA List dialog box.

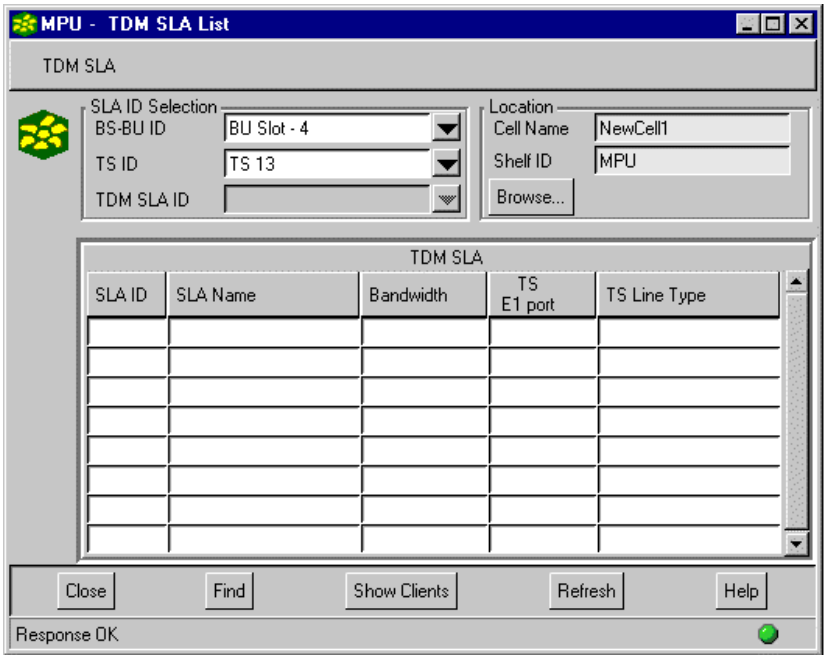
To access the TDM SLA List dialog box:

The TDM SLA list dialog box is accessed in one of the following ways:

- In the Main window, select **Configuration** then select **TDM SLA** from the *SLA* submenu of the *W3000 Services* menu. Browse to the required shelf in the *Browse Shelf* dialog box and click **OK**.
- **Shelf only** - In Shelf View, select **TDM SLA** from the *SLA* submenu of the *Services* menu.
- **Shelf only** - In Sector View, select **Shelf** then select **TDM SLA** from the *SLA* submenu of the *Services* menu.

The TDM SLA List dialog box is displayed as shown below.

Figure 7-39: TDM SLA List Dialog Box (Shelf)



Notes

For a Stand-Alone BS-BU, the Sector name appears instead of the Shelf ID and the BS-BU ID drop-down list is grayed.

To display TDM SLA:

1 Select the BS-BU from the dropdown list in the **BS-BU ID** field.

2 Select the TS from the dropdown list in the **TS ID** field.

3 To display all TDM SLAs currently defined on the selected BS-BU and TS, select **All** from the dropdown list in the **TDM SLA ID** field.

4 To display one TDM SLA defined on the selected BS-BU and TS, select **TDM SLA ID** from the dropdown list in the **TDM SLA ID** field.

5 Click the **Find** button.

Notes

The **TDM SLA ID** field is disabled in case there are no TDM SLAs on the selected BS-BU and TS.

The *TDM SLA List* dialog box displays a list of TDM SLAs currently defined on the selected BS-BU and TS. This list includes the following read-only fields:

Location area	
Cell Name	The name of the cell for which this shelf or Stand-Alone BS-BU has been defined.
Shelf ID	**W3000 Shelf only** - The system name, if defined, of the shelf or, when no system name is defined, the IP address of the shelf.
Sector	**W3000 Stand-Alone BS-BU only** - The name of the sector in which the unit is defined.
SLA ID Selection area	
BS-BU ID	**Shelf**: The system name, if defined, of the BS-BU or, when no system name is defined, the slot number of the BS-BU. **Stand-Alone BS-BU** - The system name, if defined, of the BS-BU or, when no system name is defined, the IP Address of the BS-BU.
TS ID	The system name, if defined, of the TS or, when no system name is defined, the Customer Id of the TS.
TDM SLA ID	The number of the SLA for the TDM Data service.
List of TDM SLA	
SLA ID	The number of the SLA for the TDM Data service. Up to 16 SLA for TDM Data services can be defined on a particular TS. The SLA ID is unique for this TS.
SLA Name	This is the SLA description, as set by an Operator.
Bandwidth	The Leased Line bandwidth size is the number of air time slots (ATS) used within this E1 port for this SLA. This parameter provides the summarized bandwidth of all services that use this SLA. Each ATS is 64 Kbps, so the actual bandwidth allocated for this TDM SLA equals the number of ATSs x 64Kbps.
TS E1 port	This is the number of the E1 port (one of the two E1 ports) on the TS by which the SLA is served.
TS Line Type	The E1 Interface framing format.

From the *TDM SLA List* dialog box you can add a new TDM SLA and edit or delete an existing TDM SLA. TDM SLAs can be added for either an ATM-NIU or a 12xE1 NIU.

Notes

The TDM SLA Add, Edit, and Delete menu items are disabled until you select the BS-BU ID and TS ID.

Adding TDM SLAs

Before adding a TDM SLA, ports must be defined on the BS-BU and on the TS-BU.

When adding a TDM SLA, you specify the TDM SLA Name and E1 port number on the TS.

For a W3000 Shelf, if the connection is established via an ATM-NIU card, you can specify the VPI/VCI values, and if the connection is established via a BS-BU Ethernet port, then the VPI/VCI fields are disabled and blank. For a **12xE1 NIU**, first channel is specified.

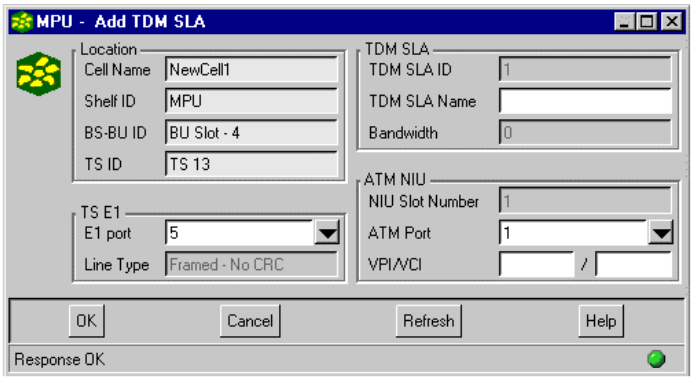
To add a TDM SLA:

1 In the *TDM SLA List* dialog box, select **Add** from the *TDM SLA* menu. The *Add TDM SLA* dialog box that is displayed depends on whether the system is Shelf-based or is a Stand-Alone BS-BU.

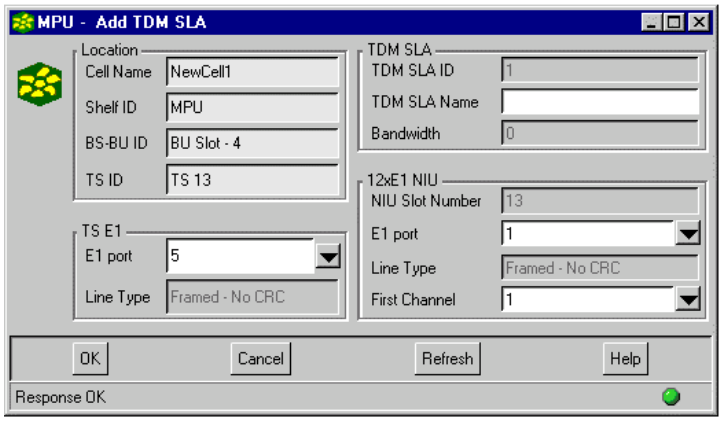
If a Shelf, it also depends on whether an ATM-NIU card or an 12xE1 NIU card is installed on the shelf.

The figure below shows Add TDM SLA dialog boxes for a W3000 Shelf ATM-NIU, a W3000 Shelf 12 x E1NIU, and a W3000 Stand-Alone BS-BU.

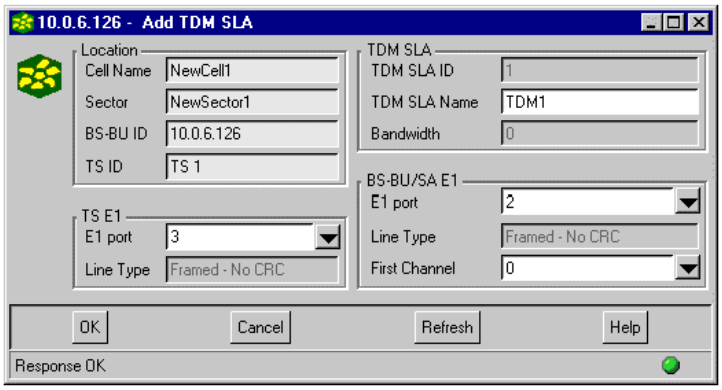
Figure 7-40: Add TDM SLA Dialog Box



Shelf BS-BU with ATM NIU



Shelf BS-BU with 12 x E1 NIU



Stand-Alone BS-BU

2 Select the E1 port number from the dropdown list in the **E1 Port** field and enter values in the remaining fields, as follows:

Location area (read-only)	
Cell Name	The name of the cell for which this shelf or Stand-Alone BS-BU has been defined.
Shelf ID	**W3000 Shelf only** - The system name, if defined, of the shelf or, when no system name is defined, the IP address of the shelf.
Sector	**Stand-Alone BS-BU only** - The name of the sector.
BS-BU ID	**Shelf**: The system name, if defined, of the BS-BU or, when no system name is defined, the slot number of the BS-BU. **Stand-Alone BS-BU** - The system name, if defined, of the BS-BU or, when no system name is defined, the IP Address of the BS-BU.
TS ID	The system name, if defined, of the TS or, when no system name is defined, the Customer ID of the TS.
E1 area	
E1 port	This is a number of the E1 port (one of the two E1 ports) on the TS by which the SLA is served.
Line Type	The E1 Interface framing format.
TDM SLA area	
TDM SLA ID	The number of the SLA for the TDM Data service. Up to 16 SLAs for the TDM Data service are defined on a particular TS. The SLA ID is unique for this TS. This field is read-only.
TDM SLA Name	This is the SLA description.
ATM area (W300 Shelf ATM-NIU card only)	
ATM-NIU for TDM	The number of the ATM-NIU card to define TDM service connection path. This field is read-only.
ATM port	The ATM-NIU port/interface number is required to define the service connection path. This field is read-only.
VPI/VCI	The VPI/VCI fields define the ATM virtual channel. If the ATM-NIU card number field indicates Ethernet connection, these fields are read-only.

12xE1 NIU area (Shelf 12xE1 NIU card only)	
NIU Slot Number	The number of the ATM-NIU E1 card to define TDM service connection path. This field is read-only.
E1 port	The E1-NIU port/interface number is required to define the service connection path. This number ranges from 1 to 12.
Line Type	The E1 interface framing format. This framing format must be identical to the format in the E1 area for the TS (described earlier in this table). This field is read-only.
First Channel	The time slot 1-31
BS-BU/SA E1 Area (Stand-Alone BS-BU only)	
E1 port	The E1 port/interface number is required to define the service connection path. This number ranges from 2-9, and depends on the type interface on the Stand-Alone BS-BU. BS 3000 Type B - 2-5 BS 3000 Type C - 2-9
Line type	The E1 interface framing format.T his framing format must be identical to the format in the E1 area for the TS (described earlier in this table). This field is read-only.
First Channel	The time slot 1-31

3 Click **OK**. The new TDM SLA is displayed in the *TDM SLA List* dialog box.

Editing TDM SLAs

Only the TDM SLA Name of an existing TDM SLA can be edited.

To add a TDM SLA:

1 In the *TDM SLA List* dialog box, select a TDM SLA from the list.

2 From the *TDM SLA* menu, select **Edit**. Double click on the line in the table identical to the Edit selected line option. The *TDM SLA Properties Edit* dialog box that is displayed depends on the system (Shelf or Stand-Alone), and the type of interface. In either case, only the **TDM SLA Name** can be edited.

3 Modify the **TDM SLA Name** field in the *TDM SLA* area, as required.

4 Click **OK** or **Apply**.

Deleting TDM SLAs

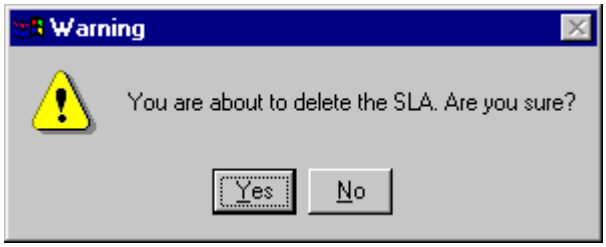
To delete a TDM SLA from the system, all services defined for this TDM SLA should be deleted first.

To add a TDM SLA:

1 In the *TDM SLA List* dialog box, select an existing TDM SLA from the list of TDM SLAs.

2 From the *TDM SLA* menu, select **Delete**. The Delete TDM SLA confirmation message is displayed as shown below:

Figure 7-41: Delete TDM SLA Confirmation Message



3 Click **Yes** to delete the selected TDM SLA.

4 The following message box appears if the selected TDM SLA has services:

Figure 7-42: Delete TDM SLA Error Message

5 Click OK and delete services before SLA removal.

Notes

To delete a TDM SLA from the system, first delete all services defined for this TDM SLA.

WALKair 3000 Service Management

The WALKair 3000 provides the following types of services:

- **IP services** – provide Data and VoIP services carried over the IP traffic to the customer

- **TDM Services** – provide Telephony and Leased Line services carried over the TDM PCM traffic, or Serial bit stream traffic to the customer

IP services and TDM services are configured from the Service list dialog box.

To add a TDM SLA:

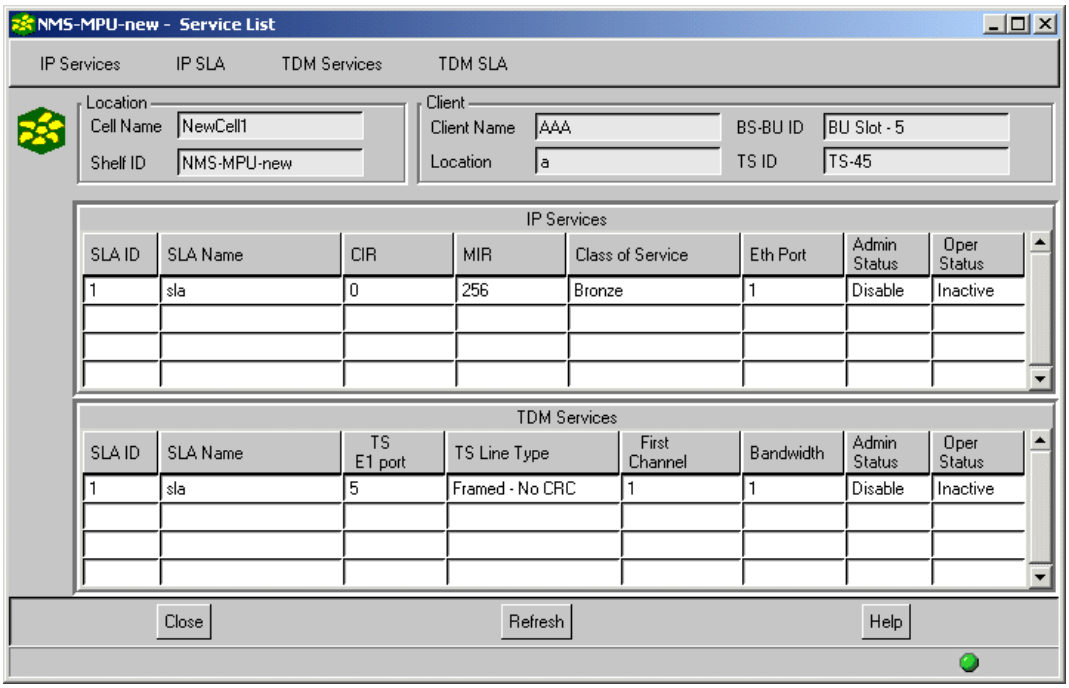
The Service list dialog box is accessed in the one of following ways:

- In the *Client List* dialog box, select a client in the client table and click the **Service** button.

- In the *Show Clients* dialog box, select a client in the client table and click the **Service** button.

The Service list dialog box is displayed as shown below.

Figure 7-43: Service List Dialog Box



The *Service List* dialog box displays a list of services currently defined on the selected client. This list includes the following read-only fields:

Location area	
Cell Name	The name of the cell for which this shelf or Stand-Alone BS-BU has been defined.
Shelf ID	**Shelf only** - The system name, if defined, of the shelf or, when no system name is defined, the IP address of the shelf.
Sector	**Stand-Alone BS-BU only** - The system name, if defined, of the unit or, when no system name is defined, the IP address of the unit.
Client area	
Client Name	The administratively assigned name for this Client.
Location	The physical location of this Client (e.g. Client's address).

BS-BU ID	**Shelf**: The system name, if defined, of the BS-BU or, when no system name is defined, the slot number of the BS-BU. **Stand-Alone BS-BU**: The system name, if defined, of the BS-BU or, when no system name is defined, the IP Address of the BS-BU.
TS ID	The system name, if defined, of the TS or, when no system name is defined, the Customer ID of the TS.
List of IP Services	
SLA ID	The number of the SLA for the IP Data service. Up to 16 SLA for the IP Data service can be defined on the particular TS. The SLA Id is unique for this TS.
SLA Name	This is the SLA description, as set by an Operator.
CIR	Committed Information Rate (CIR) for the IP traffic defined for this client in this particular IP service. The CIR of the service cannot exceed the CIR of the SLA it is using.
MIR	This parameter defines the maximum rate for this pipe, providing that free BW is available for allocation to it. The pipe rate cannot exceed this number.
Class of Service	This parameter defines the Class of Service: Bronze, Silver, Gold or Platinum.
Eth port	This is the number of the Ethernet port (one of the four Ethernet ports) on the TS by which the SLA is served.
Admin	The administrative status of the service.
Oper	Indicates the current status of the service.
List of TDM Services	
SLA ID	The number of the SLA for the TDM Data service.
SLA Name	This is the SLA description set by an Operator.
E1 port	This is the number of the E1 port (one of the two E1 ports) on the TS by which the SLA is served.

Line Type	The E1 Interface framing format.
First Channel	The first air time slot allocated for the specified TDM service.
Bandwidth	Leased Line bandwidth size that is the number of the air time slots (ATS) used within this E1 port for this SLA. This parameter provides the summarized bandwidth of all services defined with this SLA. Each ATS is 64 Kbps, therefore the actual bandwidth allocated for this TDM SLA is the number of ATSs x 64Kbps.
Admin	The administrative status of the service.
Oper	Indicates the current status of the service.

From the *Services List* dialog box, you can add a new IP Service, TDM Service, IP SLA and TDM SLA. You can edit existing IP Service, TDM Service, IP SLA and TDM SLA. You can delete an existing IP Service or TDM Service.

Adding IP Services

When adding an IP service, you can select the IP SLA ID, specify the committed information rate and administrative status.

To add an IP service:

1 In the *Services List* dialog box, select **Add** from the *IP Services* menu. The Add IP Service dialog box is displayed as shown below (7-44 on page 7-82 for a W3000 Shelf and 7-45 on page 7-82 for a Stand-Alone BS-BU.

Figure 7-44: Add IP Service Dialog Box – W3000 Shelf

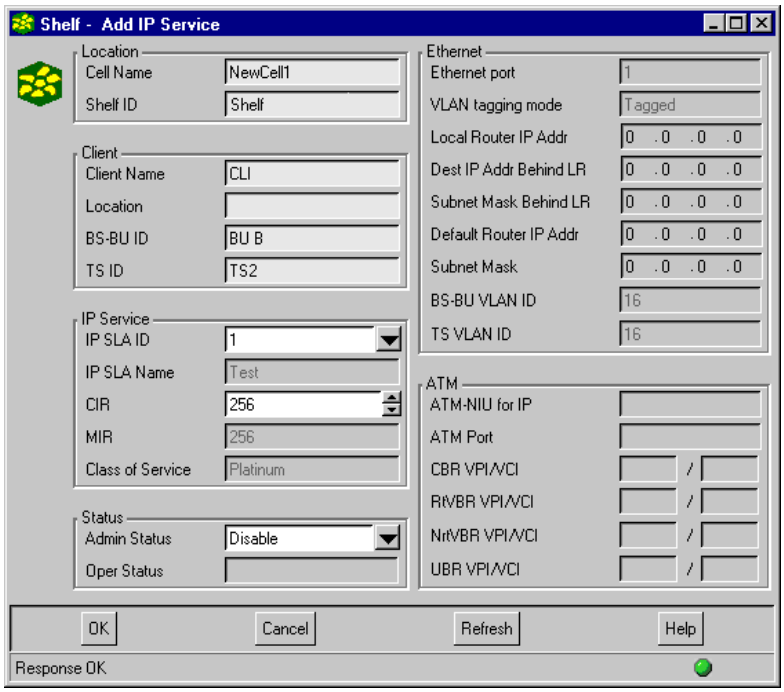
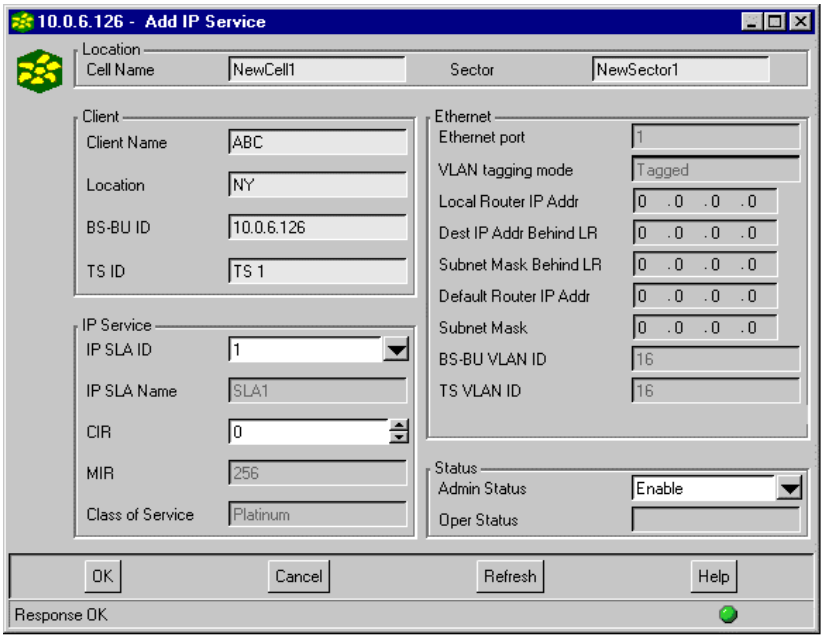


Figure 7-45: Add IP Service Dialog Box – W3000 Stand-Alone BS-BU



2 In the *IP Service* area:

◇ Select the IP SLA ID for the new service from the dropdown list in the IP SLA ID field. Information describing the selected IP SLA is automatically displayed in the related read-only fields.

◇ Select the committed information rate (CIR) for the new IP Service using the arrows in the *CIR* field.

Notes

For a Bronze SLA, the CIR must be set to "0".
The CIR cannot exceed the maximum MIR in QAM and QPSK.

3 If the system is functioning in Layer 2 (bridging) mode, the BS-BU VLAN ID and TS-BU VLAN fields are active in the Add IP Service Dialog Box. If so, enter the BS-BU VLAN ID and TS VLAN ID.

-Or-

If the system is functioning in Layer 3 (basic) mode, skip this step.

4 In the Status area:

◇ Select the administrative status for the new service from the dropdown list in the **Admin Status** field.

Location area (read only)	
Cell Name	The name of the cell for which this shelf or Stand-Alone BS-BU has been defined.
Shelf ID	**Shelf only** - The system name, if defined, of the shelf or, when no system name is defined, the IP address of the shelf.
Sector	**Stand-Alone BS-BU only** - The system name, if defined, of the unit or, when no system name is defined, the IP address of the unit.
Client area (read only)	
Client Name	The administratively assigned name for this Client.
Location	The physical location of this Client (e.g. Client's address).
BS-BU ID	The system name, if defined, of the BS-BU or, when no system name is defined, the slot number of the BS-BU.
TS ID	The system name, if defined, of the TS or, when no system name is defined, the Customer ID of the TS.

IP Service area	
IP SLA ID	The number of the SLA for the IP Data service.
SLA Name	The IP SLA description. This field is read-only.
CIR	Committed Information Rate (CIR) for the IP traffic defined for this client in this particular IP service. The value of this parameter is N, when the actual CIR equals to N*256 Kbps.
MIR	This parameter defines the maximum rate this pipe can achieve (not guaranteed). Only if free BW is available is it allocated for this pipe. This field is read-only.
Class of Service	This parameter defines the Class of Service: Platinum, Gold, Silver or Bronze. This field is read-only.
Status area	
Admin Status	The administrative status of the IP Service: **Enable** or **Disable**.
Oper status	The operational status of the IP Service: **Active** or **Inactive**. This field is read-only.
Ethernet area	
Eth port	This is a number of the Ethernet port on the TS by which the SLA is served (read-only).
VLAN tagging mode	Indicates whether the user's LAN is working with VLAN. This parameter defines whether the VLAN tag is sent in IP packets (read-only).
Local Router IP Addr	The Local (LAN) Router IP Address. In case the client is connected to the TS via a router, the router's IP address must be defined (read-only).
Dest IP Addr Behind LR	The Destination IP Address behind the Local Router (read-only).
BS-BU VLAN ID	Active for Layer 2 (Bridging Mode), Grayed for Layer 3 (Basic Mode).
TS VLAN ID	Active for Layer 2 (Bridging Mode), Grayed for Layer 3 (Basic Mode).
Subnet Mask Behind LR	The Subnet Mask behind the Local Router.

Default Router IP Addr	The backbone Default Router IP address. Each SLA can use a different router on the backbone.
Subnet Mask	The Subnet Mask used in the TS on the client side.
VLAN Tag	Unique VLAN ID defined for the SLA (read-only).
VLAN Tag	Unique VLAN ID defined for the SLA (read-only).
ATM area (read-only) - For Shelf with ATM only	
ATM-NIU for IP	The number of the ATM-NIU card to define the IP service connection path. 1 to 16 - Indicates the ATM-NIU card slot number. Blank - Indicates Ethernet connection.
ATM port	The ATM-NIU card port/interface number required to define the service connection path.
CBR VPI/VCI	The VCI/VPI defined for level 1.
RtVBR VPI/VCI	The VCI/VPI defined for level 2.
NrtVBR VPI/VCI	The VCI/VPI defined for level 3.
UBR VPI/VCI	The VCI/VPI defined for level 4.

5 Click **OK**. The new IP Service is displayed in the Services List dialog box.

Editing IP Services

The IP SLA ID, CIR and administrative status of an existing IP service can be edited.

To edit an IP service:

1 In the *Services List* dialog box, select an existing IP service from the list of IP services.

2 From the *IP Service* menu, select **Edit**. Double Click on the line in the table that is identical to the Edit selected line option. The *IP Service Properties Edit* dialog box is displayed. The *IP Service Properties Edit* dialog box has the same editable fields as the *Add IP Service* Dialog Box (see Figure 7-44 on page 7-82 and Figure 7-45 on page 7-82).

3 If required, modify the IP SLA ID as required, by selecting the IP SLA ID from the dropdown list in the **IP SLA ID** field.

4 If required, modify the **committed information rate (CIR)**for the existing IP Service using the arrows in the CIR field, as required.

5 If required, modify the administrative status of the service by selecting **Enable/Disable** from the dropdown list in the **Admin Status** field.

6 If required, for Ethernet Layer 2 only, in the Ethernet area, modify the BS-BU VLAN ID and TS VLAN ID. For Ethernet Layer 3, these fields are grayed.

7 Click **OK** or **Apply**.

Deleting IP Services

IP services can be deleted from the system.

To delete an IP service:

1 In the *Services List* dialog box, select an existing IP service from the list of IP services.

2 From the *IP Service* menu, select **Delete**. The Delete IP Service confirmation message is displayed as shown below:

Figure 7-46: Delete IP Service Confirmation Message

3 Click **Yes** to delete the selected IP Service.

Adding TDM Services

When adding a TDM service, you can select the TDM SLA ID, specify the First Channel, Bandwidth and Administrative status.

To add a TDM service:

1 Access the Client list dialog box in one of the following ways:

- **Shelf BS-BU** - In Shelf View - select Clients and Services from the Services menu.
- **Shelf BS-BU** - In Sector View - select Clients and Services from the Services submenu of the Shelf menu.
- **Stand-Alone BS-BU only** - In BS-BU View, select Clients and Services from the Services menu.
- **In the Main window** - select Clients and Services from the W3000 Services submenu of the Configuration menu. Browse to the required BS-BU and click OK

2 In the *Services List* dialog box, select **Add** from the *TDM Service* menu. The *Add TDM Service Properties* Edit dialog is displayed as shown below (Figure 7-51 for a W3000 Shelf and Figure 7-52 for a W3000 Stand-Alone BS-BU).

Figure 7-47: Add TDM Service Properties Edit - W3000 Shelf

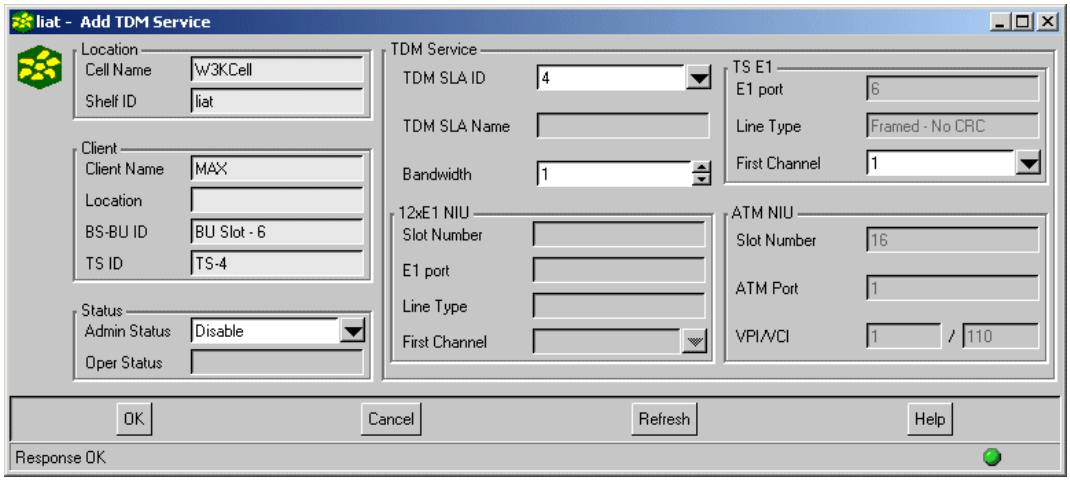
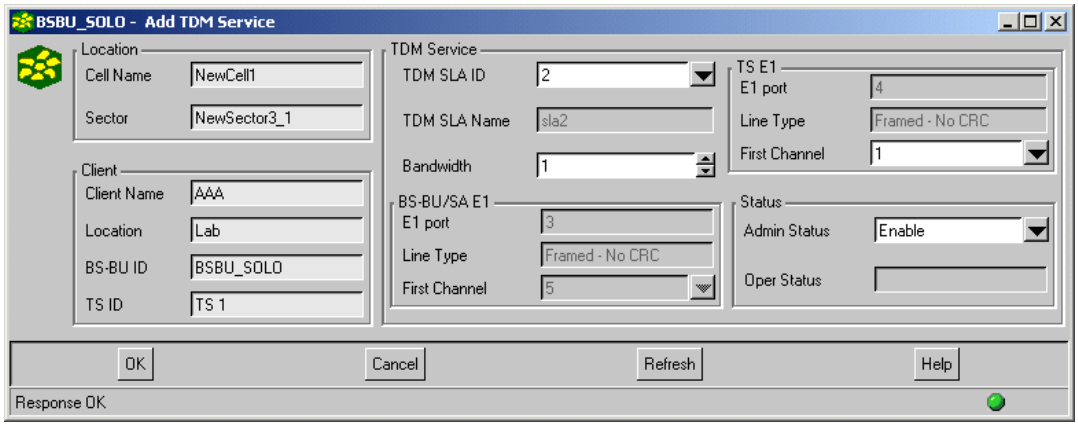


Figure 7-48: Add TDM Service Properties Edit - W3000 Stand-Alone BS-BU



3 In the *TDM Service* area:

- ◇ Select the TDM SLA ID for the new service from the dropdown list in the **TDM SLA ID** field. Information describing the selected TDM SLA is automatically displayed in the read-only fields.
- ◇ Select the First Channel for the new TDM service from the dropdown list in the **First Channel** field.
- ◇ Select the Bandwidth for the new TDM Service using the arrows in the Bandwidth field.

4 In the *Status* area:

- ◇ Select the administrative status for the new service from the dropdown list in the **Admin Status** field.

Notes

The **First Channel** and **Bandwidth** fields are read-only when the Line Type of the E1 Port is Unframed.

Location area (read only)	
Cell Name	The name of the cell for which this shelf or Stand-Alone BS-BU has been defined.
Shelf ID	**Shelf only** - The system name, if defined, of the shelf or, when no system name is defined, the IP address of the shelf.
Sector	**Stand-Alone BS-BU only** - The system name, if defined, of the unit or, when no system name is defined, the IP address of the unit.
Client area (read only)	
Client Name	The administratively assigned name for this Client.
Location	The physical location of this Client (e.g. Client's address).
BS-BU ID	Shelf - The system name, if defined, of the BS-BU or, when no system name is defined, the slot number of the BS-BU. Stand-Alone BS-BU - The system name, if defined, of the BS-BU or, when no system name is defined, the IP Address of the BS-BU.
TS ID	The system name, if defined, of the TS or, when no system name is defined, the Customer ID of the TS.
Status area	
Admin Status	The administrative status of the TDM Service: **Enable** or **Disable**.
Oper status	The operational status of the TDM Service: **Active** or **Inactive**. This field is read-only.
TDM Service area	
TDM SLA ID	The number of the SLA for the TDM service.
TDM SLA Name	This is the SLA description set by an Operator. This field is read-only.
First Channel	The first air time slot allocated for the specified TDM service.
Bandwidth	The Leased Line bandwidth size, expressed in the number of Air Time Slots (ATS). Each ATS is 64 Kbps, therefore the actual bandwidth allocated for this TDM service equals the number of ATSs x 64Kbps.

E1 port	This is the number of the E1 port (one of the two E1 ports) on the TS by which the SLA will be served. This field is read-only.
Line Type	The E1 Interface framing format. This field is read-only.
W3000 Shelf only - ATM NIU card area (read-only)	
ATM-NIU for TDM	The number of the ATM-NIU card to define the TDM service connection path. 1 to 16 - Indicates the ATM-NIU card slot number. Blank - indicates Ethernet connection.
ATM port	The ATM-NIU card port/interface number required for definition of the service connection path.
VPI/VCI	The VPI/VCI fields define the ATM virtual channel.
W3000 Shelf only - 12xE1 Card Area (read-only)	
NIU Slot Number	The number of the ATM-NIU E1 card to define TDM service connection path. 1 to 16 - Indicates the ATM-NIU card slot number. Blank - indicates Ethernet connection.
E1 port	The E1-NIU port/interface number is required to define the service connection path. This number ranges from 1 to 12.
Line Type	The E1 interface framing format. This framing format must be identical to the format in the E1 area for the TS (described earlier in this table).

First Channel	The time slot 1-31
W3000 Stand-Alone only - BS-BU/SA E1 Area (read-only)	
E1 port	The E1 port/interface number is required to define the service connection path. This number ranges from 2 to 9 and depends on the BS-BU interface: BS 3000 Type B - 2-5 BS 3000 Type C - 2-9
Line Type	The E1 interface framing format. This framing format must be identical to the format in the E1 area for the TS (described earlier in this table).
First Channel	The time slot 1-31

5 Click **OK**. The new TDM Service is displayed in the *Services List* dialog box.

Editing TDM Services

The TDM SLA ID, Bandwidth and administrative status of an existing TDM service can be edited. The first Channel can only be edited if you select another TDM SLA ID.

To edit a TDM service:

1 In the *Services List* dialog box, select an existing TDM service from the list of TDM services.

2 From the *TDM Service* menu, select **Edit**. Double click on the line in the table that is identical to the Edit selected line option. The *TDM Service Properties Edit* dialog box is displayed as shown below (7-49 on page 7-93 for a W3000 Shelf and 7-50 on page 7-93 for a W3000 Stand-Alone BS-BU).

Figure 7-49: TDM Service Properties Edit Dialog Box –W3000 Shelf

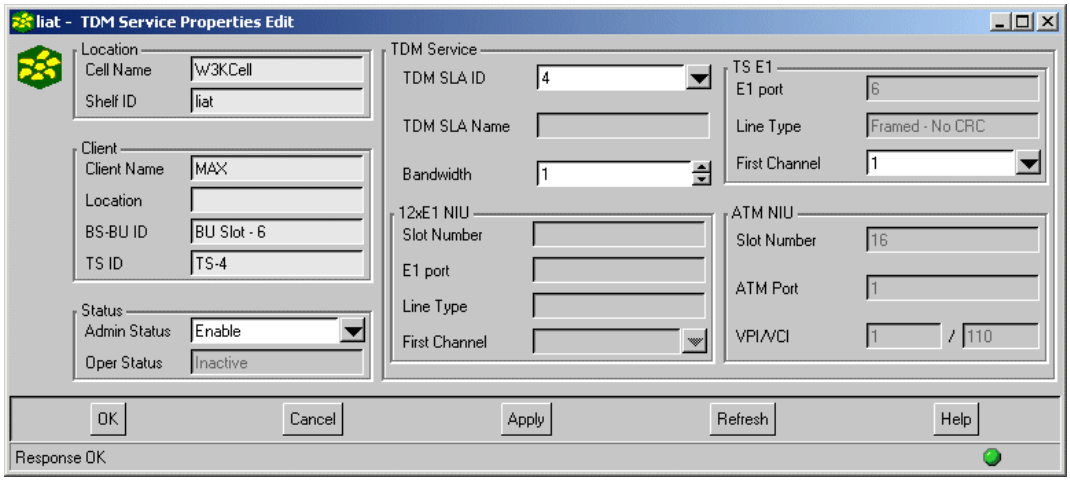
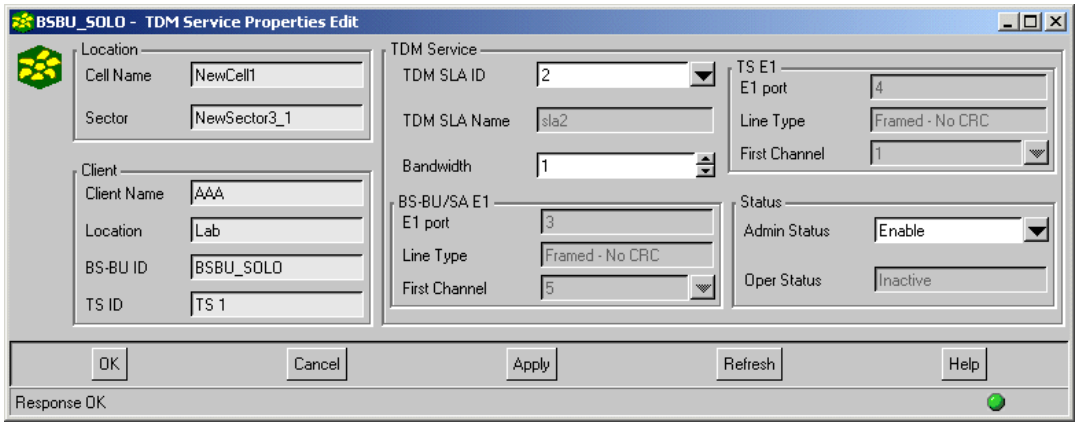


Figure 7-50: TDM Service Properties Edit Dialog Box – W3000 Stand-Alone BS-BU



3 Modify the TDM SLA ID of the service by selecting an available TDM SLA ID from the dropdown list in the **TDM SLA ID** field.

4 If you select another TDM SLA ID, you can modify the First Channel by selecting an available channel from the dropdown list in the **First Channel** field. If the TDM SLA ID is not changed, the **First Channel** field is read-only.

5 Modify the Bandwidth for an existing TDM Service using the arrows in the **Bandwidth** field.

6 Modify the administrative status of the service by selecting **Enable/Disable** from the dropdown list in the **Admin Status** field.

7 Click **OK** or **Apply**.

Notes

The **First Channel** and **Bandwidth** fields are read-only when the Line Type of the E1 Port is Unframed.

Deleting a TDM Service

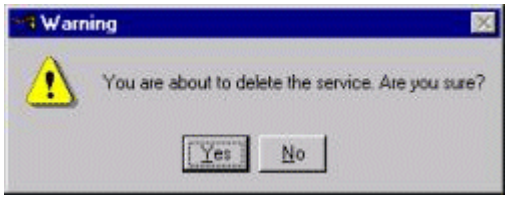
TDM services can be deleted from the system.

To delete a TDM service:

1 n the *Services List* dialog box, select an existing TDM service from the list of TDM services.

2 From the *TDM Service* menu, select **Delete**. The Delete TDM Service confirmation message is displayed as shown below:

Figure 7-51: Delete TDM Service Confirmation Message



3 Click **Yes** to delete the selected TDM Service.

WALKair 3000 Show Clients

You can view a list of clients that use services based on the IP or TDM SLA, configure a client's details and invoke the service list of the client via the Show Clients dialog box.

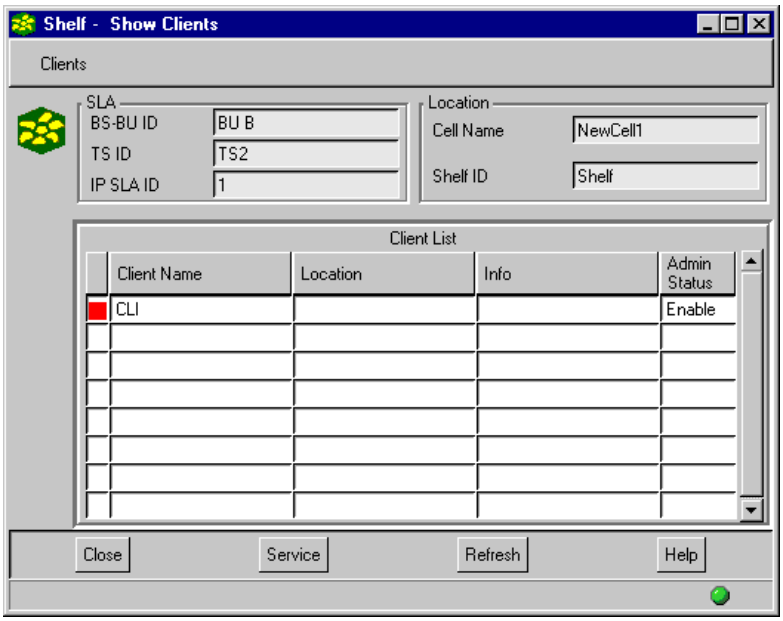
To access the Show Clients dialog box:

1 The Show Clients list dialog box is accessed as follows:

◇ In the *IP SLA* List dialog box, select an existing IP SLA from the list of IP SLA and click the *Show Clients* button.

The *Show Clients* dialog box on the IP SLA is displayed as shown below.

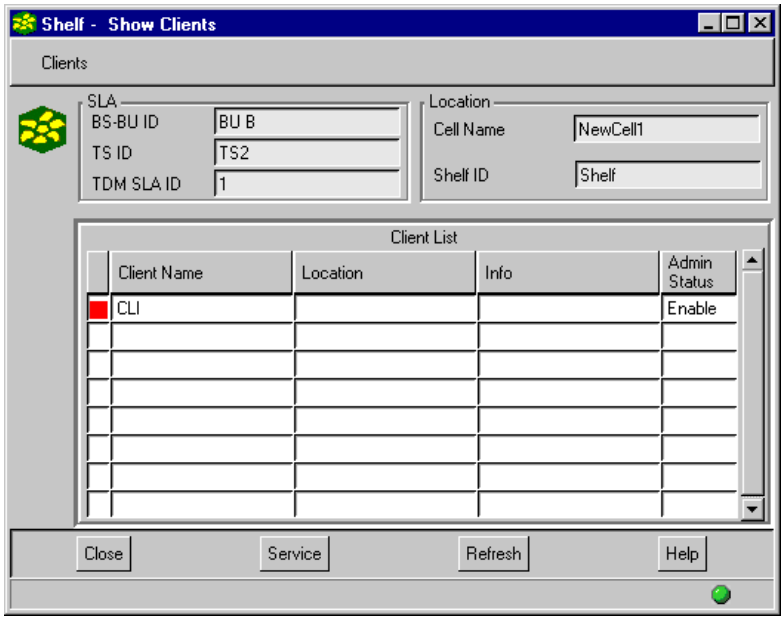
Figure 7-52: Show Clients Dialog Box on the IP SLA



1 In the *TDM SLA List* dialog box, select an existing TDM SLA from the list of TDM SLA and click the *Show Clients* button.

The *Show Clients* dialog box on the TDM SLA is displayed as shown below.

Figure 7-53: Show Clients Dialog Box for TDM SLA



The Show Clients dialog box displays a list of clients that use the SLA was selected in the previous dialog box. This list includes the following read-only fields:

SLA area	
BS-BU ID	The system name, if defined, of the BS-BU or, when no system name is defined, the slot number of the BS-BU.
TS ID	The system name, if defined, of the TS or, when no system name is defined, the Customer ID of the TS.
IP SLA ID **Or** **TDM SLA ID**	The number of the SLA.
Location area	
Cell Name	The name of the cell for which this shelf or Stand-Alone BS-BU has been defined.
Shelf ID	**Shelf only** - The system name, if defined, of the shelf or, when no system name is defined, the IP address of the shelf.

Sector	**Stand-Alone BS-BU only** - The system name, if defined, of the unit or, when no system name is defined, the IP address of the unit.
Client List	
Small square	Indicates the client's service status: **Green** - All services function properly **Red** - One or more services failed **Gray** - There are no services defined
Client Name	The administratively assigned name for this Client.
Location	The physical location of this client (e.g. client's address).
Info	The textual identification of the contact person, together with the information on how to contact this person (e.g. client's phone number).
Admin	The administrative status of the client: **Enable** or **Disable**.

From the Show Clients dialog box you can edit existing clients and invoke the Service List dialog box.

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8

Chapter 8 - Performance Monitoring

In This Chapter

- "WALKair 1000 Air Performance Monitoring" on page 8-2
- "WALKair 3000 Air Performance Monitoring" on page 8-11
- "V5 Call Statistics" on page 8-20
- "Performance Data Collection" on page 8-24
- "Frame Relay Statistics" on page 8-39
- "WALKair 3000 IP SLA Performance Monitoring" on page 8-50

WALKair 1000 Air Performance Monitoring

WALKair provides air performance monitoring for the bi-directional air link path between a BS-BU and the Terminal stations connected to it. Air performance monitoring is based on the error performance measurements of 5-msec, fixed-size air frames. Each air frame is monitored by means of a Cyclic Redundancy Check (CRC). WALKair's air performance monitoring is compliant with

ITU-T Recommendation G.826 and ITU-T Recommendation G.821.

WALKair provides an air performance summary with details of air performance for the current 15 minutes and the last 24 hours. In addition, WALKair accumulates APM parameters for up to 96 15-minute intervals, and displays these parameter values and their graphical representation in a detailed air performance table.

Air Performance Summary

The air performance summary enables you to view the Downlink (DL) and Uplink (UL) parameters for selected time intervals.

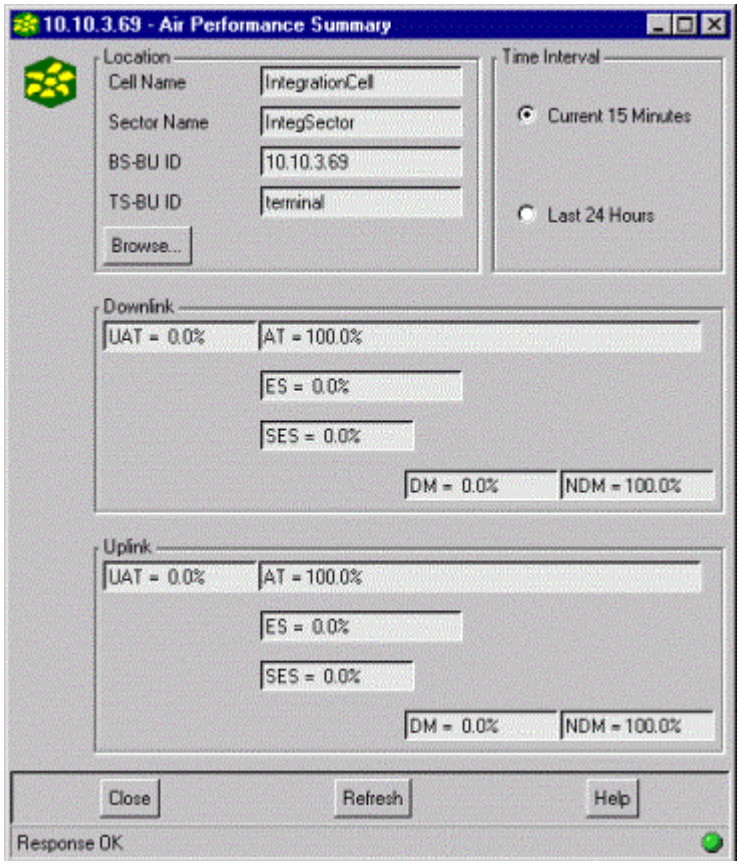
To view the air performance summary:

1 Access the Air Performance Summary dialog box in one of the following ways:

- ◇ In the Terminal Station BU View, select **Air Performance Summary** from the *Performance* menu.
- ◇ In the Main window, select **Air**, then **Air Performance Summary** from the *Performance* menu. Browse to the required TS-BU in the *Browse TS* dialog box, and click **OK**.

The *Air Performance Summary* dialog box is displayed as shown below:

Figure 8-1: Air Performance Summary Dialog Box



2 Select the time period for which you want to view air performance: **Current 15 Minutes** or **Last 24 Hours**. The air link parameters for the selected time interval are displayed.

The air performance summary parameters are as follows:

Location area	
Cell Name	The name of the cell for which the TS-BU has been defined.
Sector Name	The name of the sector for which the TS-BU has been defined.
BS-BU ID	The system name if defined for the BS-BU to which this TS-BU is registered or, when no system name is defined, the IP address of the BS-BU. The system name is defined in the *BS-BU Properties Edit* dialog box.
TS-BU ID	The system name if defined for the TS-BU or, when no system name is defined, the customer ID of the TS-BU. The system name is defined in the *Terminal Station BU Properties Edit* dialog box.

Downlink/Uplink areas	
UAT	Unavailable Time. The percentage of time that the air link path was unavailable. The air link path is considered unavailable from the onset of 10 contiguous SESs, or from the onset of the condition leading to a link failure.
AT	Available Time. The percentage of time that the air link path was available.
ES	Errored Seconds. The percentage of ESs that were counted during AT. ES is a one-second time interval with one or more CRC errors over the air link path.
SES	Severely Errored Seconds. The percentage of SESs that occurred during AT. SES is a one-second time interval containing over 30% errored air frames or at least one defect (a second with 60 or more errored air frames). SES is a subset of ES.
DM	Degraded Minutes. The percentage of degraded minutes that were counted in the specified time interval (15 min or 24 hrs). DM is a one-minute time interval in which the estimated frame errorrate exceeds 1E-6 but does not exceed 1E-3 (see G.821 [1]). - DMs are determined by the following: - Collecting all available Seconds.Removing any SESs. - Grouping the results in 60-sec-long groups. - Counting a 60-sec-long group (minute) as degraded if the cumulative errors during the seconds present in the group exceed 1E-6.
NDM	Non-Degraded Minutes. The percentage of NDMs that were counted in the specified time interval (15 min or 24 hrs).

Detailed Air Performance

The detailed air performance parameters include both DL parameters (that refer to measurements at the TS—BU), and UL parameters (that refer to measurements at the BS-BU).

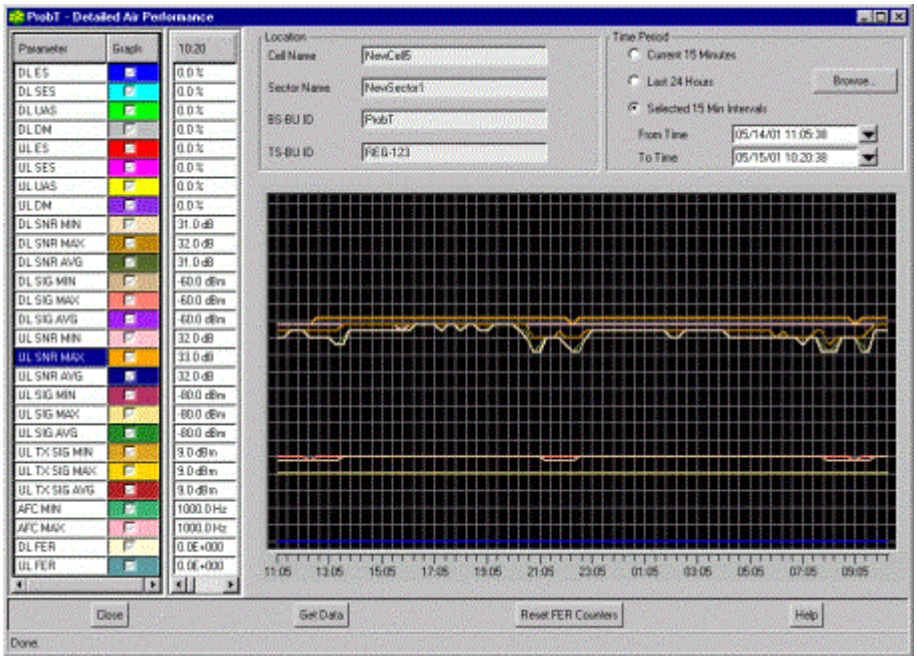
To view the detailed air performance parameters:

1 Access the *Air Performance Summary* dialog box in one of the following ways:

- ◇ In the Terminal Station BU View, select **Detailed Air Performance** from the ***Performance*** menu.
- ◇ In the Main window, select **Air**, then **Detailed Air Performance** from the *Performance* menu. Browse to the required TS-BU in the *Browse TS* dialog box, and click **OK**.

The *Detailed Air Performance* dialog box is displayed as shown below:

Figure 8-2: Detailed Air Performance Dialog Box



2 Select the time period for which you want to view detailed air performance by selecting one of the following:

- ◇ **Current 15 Minutes**: Displays the reported performance parameters for the current 15 minute interval.
- ◇ **Last 24 Hours**: Displays the reported performance parameters for the last 24 hour period (including the current 15 minute interval).
- ◇ **Selected 15 Min Intervals**: Displays the reported performance parameters for up to 96 15 minute intervals.

3 If you select **Selected 15 Minute Intervals**, select the time interval by selecting start and finish times from the dropdown lists in the **From Time** and **To Time** fields.

Notes

The **From Time** and **To Time** fields are only displayed when **Selected 15 Min Intervals** option is selected.

4 In the list of parameters, select the **Graph** checkbox to the right of a parameter to display that parameter in the graph.

5 Click **Get Data**. Values for the air link parameters for the selected time interval are displayed in the column to the right of the **Graph** column. The graph displays air performance measurements for the selected parameters. The color of the lines in the graph matches the corresponding color surrounding the selected checkbox of the parameter.

Notes

When you select Current 15 Minutes as the time interval, the Get Data button becomes a Stop button. Clicking Stop terminates the accumulation of air link measurements.

6 To set all Uplink and Downlink FER (Frame Error Rate) counters to 0, click **Reset FER Counters**.

The detailed air performance parameters appearing in the list of parameters in the *Detailed Air Performance* dialog box are as follows:

DL/UL ES Downlink/Uplink Errored Seconds. The ES ratio measured at the TS-BU or BS-BU, as a percentage.

DL/UL SES Downlink/Uplink Severely Errored Seconds. The SES ratio measured at the TS-BU or BS-BU, as a percentage.

DL/UL UAS Downlink/Uplink Unavailable Seconds. The UAS ratio measured at the TS-BU or BS-BU, as a percentage.

DL/UP DM Downlink/Uplink DMs. The DM ratio measured at the TS-BU or BS-BU, as a percentage.

DL/UL SNR MIN Downlink/Uplink Minimal Signal to Noise Ratio. The estimated minimum SNR measured by the TS-BU's modem or the BS-BU's modem, in dB.

DL/UL SNR MAX Downlink/Uplink Maximal Signal to Noise Ratio. The estimated maximum SNR measured by the TS-BU's modem or the BS-BU's modem, in dB.

DL/UL SNR AVG Downlink/Uplink Average Signal to Noise Ratio.The estimated average SNR measured by the TS-BU's modem or the BS-BU's modem, in dB.

DL/UL SIG MIN Downlink/Uplink Minimal Received Signal Level.The minimum signal level received at the antenna port of the TS-BU's RF Unit or the BS-BU's RF Unit, in dBm.

DL\UL SIG MAX Downlink/Uplink Maximal Received Signal Level. The maximum signal level received at the antenna port of the TS-BU's RF Unit or the BS-BU's RF Unit, in dBm.

DL\UL SIG AVG	Downlink/Uplink Average Received Signal Level. The average signal level received at the antenna port of the TS-BU's RF Unit or the BS-BU's RF Unit, in dBm.
UL TX SIGMIN	Uplink Minimal Transmit Signal Level. Theminimum transmitted signal level at the antenna port of the TS-BU's RF Unit, in dBm.
UL TX SIG MAX	Uplink Maximal Transmit Signal Level. The maximum transmitted signal level at the antenna port of the TS-BU's RF Unit, in dBm.
UL TX SIGAVG	Uplink Average Transmit Signal Level. The average transmitted signal level at the antenna port of the TS-BU's RF Unit, in dBm.
AFC MIN	Downlink Minimal Automatic Frequency Control. The minimum carrier frequency offsets. The sum of the synthesizer's frequency offsets. Transmit Path - Base Station Receive Path – Terminal Station Units: Hz
AFC MAX	Downlink Maximal Automatic Frequency Control. The maximum carrier frequency offsets. The sum of the synthesizer's frequency offsets. Transmit Path – Base Station Receive Path – Terminal Station Units: Hz
DL/UL FER	Downlink/Uplink Frame Errors Rate. The FER at the TS-BU or BS-BU. This is measured by the number of received errored air frames divided by the total number of received air frames during a given time period.

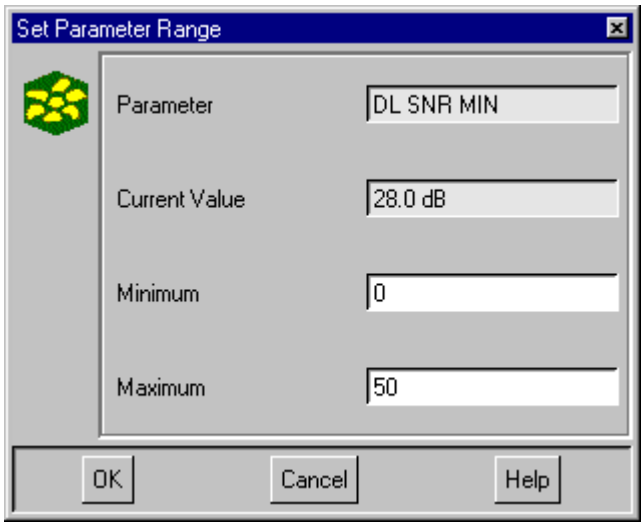
Set Parameter Range

WALKnet enables the display of several graphs simultaneously in the *Detailed Air Performance* dialog box. The counters have different ranges and you can specify the minimum and maximum values for each counter in the Set Parameter Range dialog box. WALKnet then uses the minimum and maximum values to scale the graphical display for the counter.

To set parameter range:

1 Double-click the value column (the column to the right of the **Graph** column) of a selected parameter. The *Set Parameter Range* dialog box is displayed as shown below:

Figure 8-3: Set Parameter Range Dialog Box



2 Specify a minimum value for the parameter in the **Minimum** field and a maximum value in the **Maximum** field.

3 Click **OK**.

WALKair 3000 Air Performance Monitoring

WALKair 3000 provides air performance monitoring for the bi-directional air link path between a BS-BU and the TSs connected to it. Air performance monitoring is based on the error performance measurements of 5-msec, fixed-size air frames. Each air frame is monitored by means of a Cyclic Redundancy Check (CRC). WALKair's 3000 air performance monitoring is compliant with ITU-T Recommendation G.826 and ITU-T Recommendation G.821.

WALKair 3000 provides an air performance summary with the details of an air performance for the current 15 minutes and the last 24 hours. In addition, WALKair 3000 accumulates APM parameters for up to 96 15-minute intervals, and displays these parameter values and their graphical representation in a detailed air performance table.

Air Performance Summary

The air performance summary enables you to view the Downlink (DL) and Uplink (UL) parameters for selected time intervals.

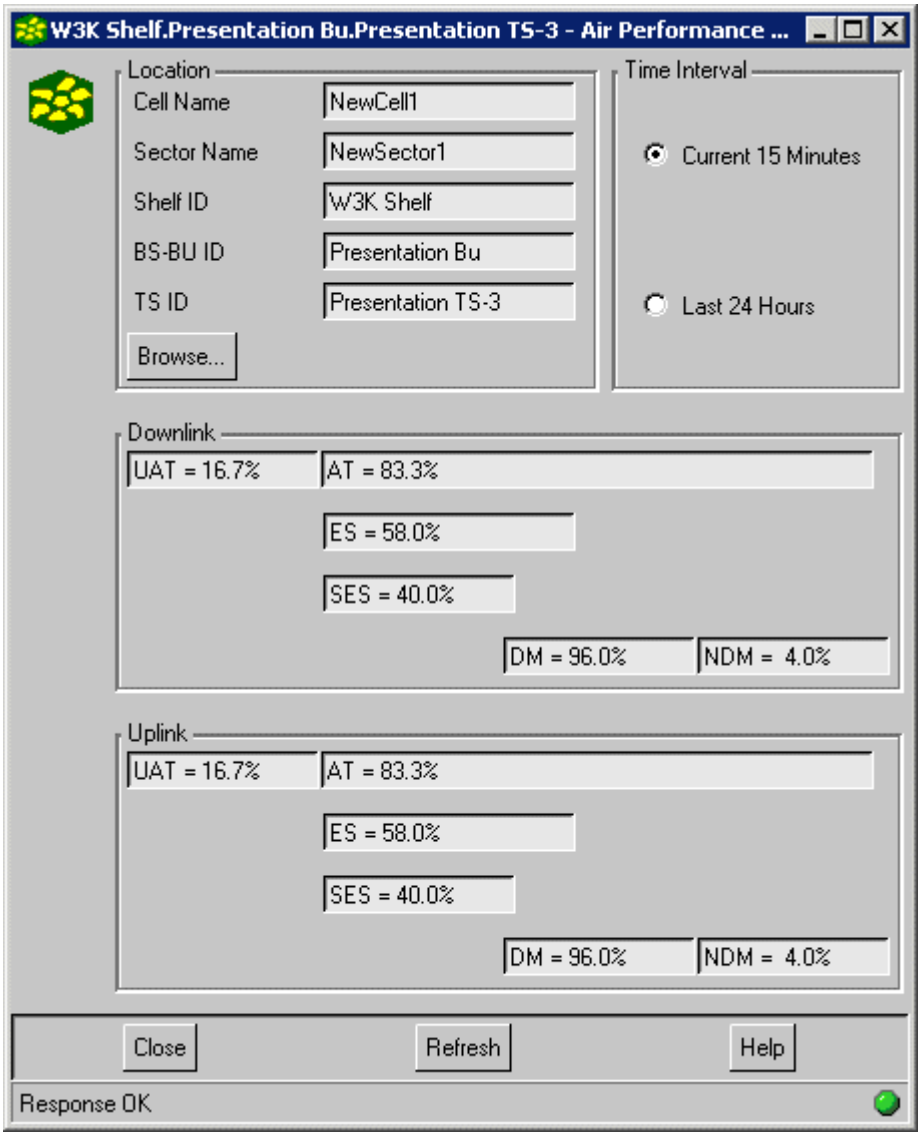
To view the air performance summary:

1 Access the Air Performance Summary dialog box in one of the following ways:

- ◇ In the Terminal Station View, select **Air Performance Summary** from the *Performance* menu.
- ◇ In the Main window, select **Air**, then **Air Performance Summary** from the *Performance* menu. Browse to the required TS in the *Browse TS* dialog box, and click **OK**.

The *Air Performance Summary* dialog box is displayed as shown below:

Figure 8-4: Air Performance Summary Dialog Box



2 Select the time period for which you want to view air performance: **Current 15 Minutes** or **Last 24 Hours**. The air link parameters for the selected time interval are displayed.

The following are Air Performance Summary dialog box parameters:

Location area	
Cell Name	The name of the cell for which this TS has been defined.
Sector Name	The name of the sector for which this TS has been defined.
Shelf ID	The name of the Shelf for which this TS has been defined. If a Shelf name is not defined, the Shelf's IP address is used as the Shelf ID.
BS-BU ID	The BS-BU system name, if defined or, when no system name is defined, the carrier index of the BS-BU.
TS ID	The TS system name, if defined or, when no system name is defined, the customer ID of the TS. The system name is defined in the *TS Properties Edit* dialog box.
Browse Button	Enables you to display configuration information for another TS in any sector in any cell in the same map.

Downlink/Uplink areas	
UAT	Unavailable Time. The percentage of time that the air link path was unavailable. The air link path is considered unavailable from the onset of 10 contiguous SESs, or from the onset of the condition leading to a link failure.
AT	Available Time. The percentage of time that the air link path was available.
ES	Errored Seconds. The percentage of ESs that were counted during AT. ES is a one-second time interval with one or more CRC errors over the air link path.
SES	Severely Errored Seconds. The percentage of SESs that occurred during AT. SES is a one-second time interval containing over 30% errored air frames or at least one defect (a second with 60 or more errored air frames). SES is a subset of ES.
DM	Degraded Minutes. The percentage of degraded minutes that were counted in the specified time interval (15 min or 24 hrs). DM is a one-minute time interval in which the estimated frame error rate exceeds 1E-6 but does not exceed 1E-3 (see G.821 [1]). DMs are determined by the following: - Collecting all available seconds. - Removing any SESs. - Grouping the results in 60-sec-long groups. - Counting a 60-sec-long group (minute) as degraded if the cumulative errors during the seconds present in the group exceed 1E-6.
NDM	Non-Degraded Minutes. The percentage of NDMs that were counted in the specified time interval (15 min or 24 hrs).

Detailed Air Performance

The detailed air performance parameters include both DL parameters that refer to measurements at the TS and UL parameters that refer to measurements at the BS-BU.

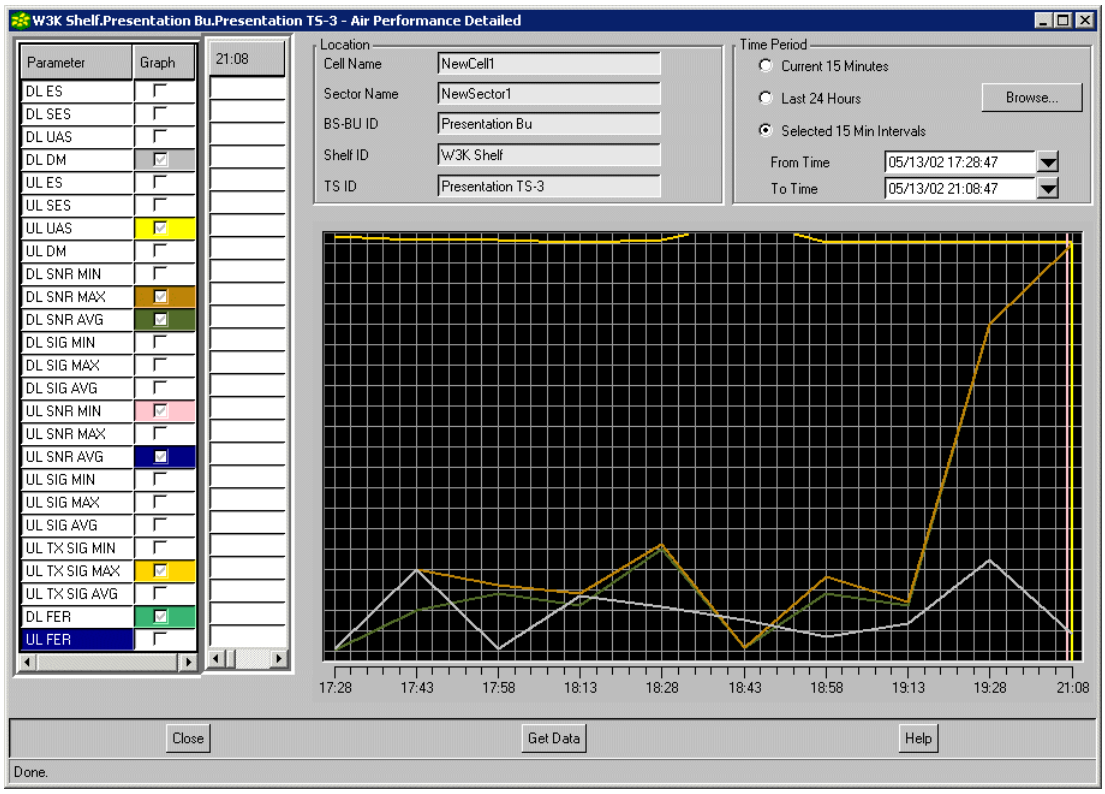
To view the detailed air performance parameters:

1 Access the *Air Performance Summary* dialog box in one of the following ways:

- ◇ In Terminal Station View, select **Detailed Air Performance** from the *Performance* menu.
- ◇ In the Main window, select **Air**, then **Detailed Air Performance** from the *Performance* menu. Browse to the required TS in the *Browse TS* dialog box, and click **OK**.

The *Detailed Air Performance* dialog box is displayed as shown below:

Figure 8-5: Detailed Air Performance Dialog Box



2 Select the time period for which you want to view detailed air performance by selecting one of the following:

- ◇ **Current 90 Minutes**: Displays the reported performance parameters for the current 90 minute interval.
- ◇ **Last 24 Hours**: Displays the reported performance parameters for the last 24 hour period (including the current 15 minute interval).
- ◇ **Selected 15 Min Intervals**: Displays the reported performance parameters for up to 96 15 minute intervals.

3 If you select **Selected 15 Minute Intervals**, select the time interval by selecting start and finish times from the dropdown lists in the **From Time** and **To Time** fields.

Notes

The **From Time** and **To Time** fields are only displayed when **Selected 90 Min Intervals** is selected.

4 In the list of parameters, select the **Graph** checkbox to the right of a parameter to display that parameter in the graph.

5 Click **Get Data**. Values for the air link parameters for the selected time interval are displayed in the column to the right of the **Graph** column. The graph displays air performance measurements for the selected parameters. The colors of the lines in the graph match the corresponding color surrounding the selected checkbox of the parameter.

Notes

When you select **Current 15 Minutes** as the time interval, the **Get Data** button becomes a **Stop** button. Clicking Stop terminates the accumulation of air link measurements.

The following air performance parameters appear in the Detailed Air Performance dialog box:

DL/UL ES	Downlink/Uplink Errored Seconds. The ES ratio measured at the TS or BS-BU, as a percentage.
DL/UL SES	Downlink/Uplink Severely Errored Seconds. The SES ratio measured at the TS or BS-BU, as a percentage.
DL/UL UAS	Downlink/Uplink Unavailable Seconds. The UAS ratio measured at the TS or BS-BU, as a percentage.
DL/UP DM	Downlink/Uplink DMs. The DM ratio measured at the TS or BS-BU, as a percentage.
DL/UL SNR MIN	Downlink/Uplink Minimal Signal to Noise Ratio. The estimated minimum SNR measured by the TS's modem or the BS-BU's modem, in dB.
DL/UL SNR MAX	Downlink/Uplink Maximal Signal to Noise Ratio. The estimated maximum SNR measured by the TS's modem or the BS-BU's modem, in dB.
DL/UL SNR AVG	Downlink/Uplink Average Signal to Noise Ratio.The estimated average SNR measured by the TS's modem or the BS-BU's modem, in dB.

DL/UL SIG MIN	Downlink/Uplink Minimal Received Signal Level.The minimum signal level received at the antenna port of the TS's RF Unit or the BS-BU's RF Unit,in dBm.
DL\UL SIG MAX	Downlink/Uplink Maximal Received Signal Level. The maximum signal level received at the antenna port of the TS's RF Unit or the BS-BU's RF Unit, in dBm.
DL\UL SIG AVG	Downlink/Uplink Average Received Signal Level. The average signal level received at the antennaport of the TS's RF Unit or the BS-BU's RF Unit, in dBm.
UL TX SIGMIN	Uplink Minimal Transmit Signal Level. The minimum transmitted signal level at the antenna port of the TS's RF Unit, in dBm.
UL TX SIG MAX	Uplink Maximal Transmit Signal Level. The maximum transmitted signal level at the antenna port of the TS's RF Unit, in dBm.
UL TX SIGAVG	Uplink Average Transmit Signal Level. The average transmitted signal level at the antenna port of the TS's RF Unit, in dBm.
DL/UL FER	Downlink/Uplink Frame Errors Rate. The FER at the TS or BU. This is measured by the number of received errored air frames divided by the total number of received air frames during a given time period.

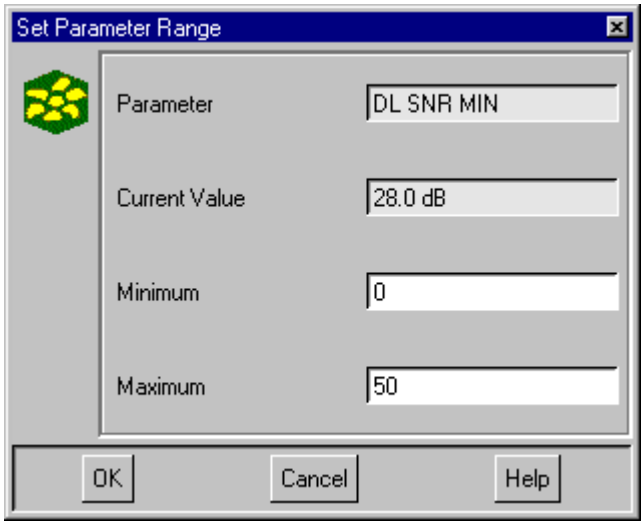
Setting the Parameter Range

WALKnet enables the display of several graphs simultaneously in the Detailed Air Performance dialog box. The counters have different ranges and you can specify the minimum and maximum values for each counter in the Set Parameter Range dialog box. WALKnet then uses the minimum and maximum values to scale the graphical display for the counter.

To set the parameter range:

1 Double-click the value column (the column to the right of the **Graph** column) of a selected parameter. The *Set Parameter Range* dialog box is displayed as shown below:

Figure 8-6: Set Parameter Range Dialog Box



2 Specify a minimum value for the parameter in the **Minimum** field and a maximum value in the **Maximum** field.

3 Click **OK**.

V5 Call Statistics

WALKair provides monitoring of V5 call statistics with details of V5 call statistics for the current 15 minutes and the last 24 hours. In addition, WALKair accumulates V5 call statistics for up to 96 15-minute intervals, and displays parameter values and their graphical representation in a detailed table.

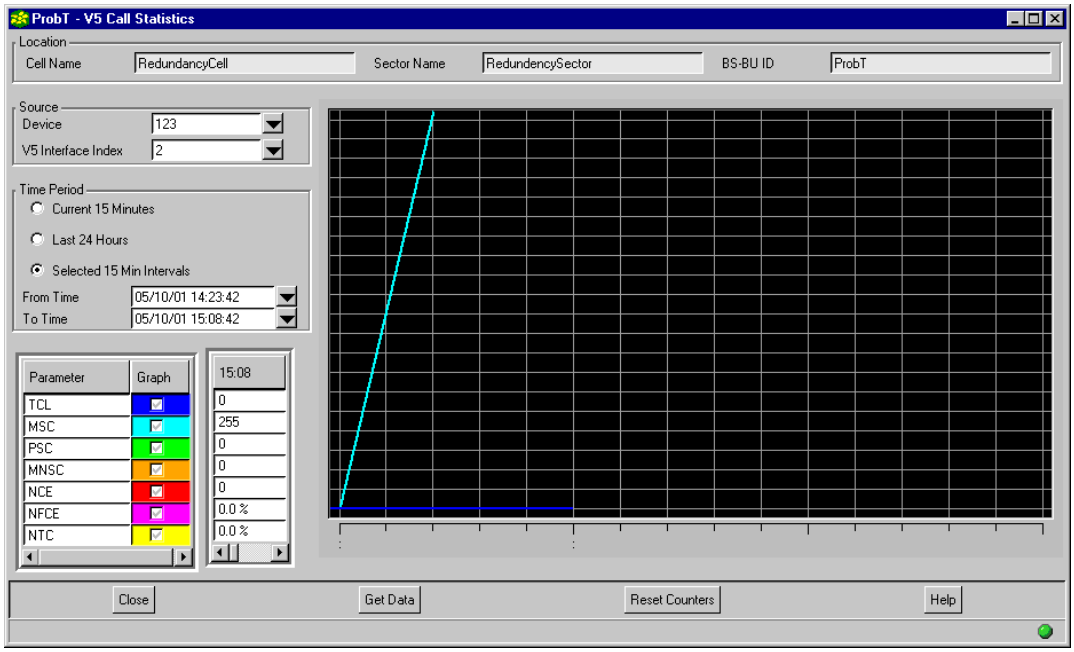
To view V5 call statistics:

1 Access the V5 Call Statistics dialog box in one of the following ways:

- ◇ In the Base Station BU View, select **V5 Call Statistics** from the *Performance* menu.
- ◇ In the Main window, select **V5 Call Statistics** from the *Performance* menu. Browse to the required BS-BU in the *Browse BS* dialog box, and click **OK**.

The V5 Call Statistics dialog box is displayed as shown below:

Figure 8-7: V5 Call Statistics Dialog Box



Notes

The **Cell Name** and **Sector Name** fields are read-only fields that display the names of the cell and sector for which the BS-BU is defined. The BS-BU ID field is also read-only and displays the system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name for the BS-BU is defined in the *BS-BU Properties Edit* dialog box.

2 In the **Source** area, select a TS-BU from the **Device** dropdown list. The list includes all TS-BUs registered to the BS-BU.

3 Select a V5 interface on the selected TS-BU from the **V5 Interface Index** dropdown list.

4 Select the time period for which you want to view V5 call statistics by selecting one of the following:

- ◇ **Current 15 Minutes**: Displays the reported statistics for the current 15 minute interval.
- ◇ **Last 24 Hours**: Displays the reported statistics for the last 24 hour period (including the current 15 minute interval).
- ◇ **Selected 15 Min Intervals**: Displays the reported statistics for up to 96 15 minute intervals.

5 If you select **Selected 15 Min** Intervals, select the time interval by selecting start and finish times from the dropdown lists in the **From Time** and **To Time** fields.

Notes

The **From Time** and **To Time** fields are only displayed when **Selected 15 Min Intervals** is selected.

6 In the list of parameters, select the **Graph** checkbox to the right of a parameter to display that parameter in the graph.

7 Click **Get Data**. Values for the V5 call statistics for the selected time interval are displayed in the **Value** column to the right of the **Graph** column. The graph displays V5 call statistics for the selected parameters. The color of the lines in the graph matches the corresponding color surrounding the selected checkbox of the parameter.

Notes

When you select **Current 15 Minutes** as the time interval, the **Get Data** button becomes a **Stop** button. Clicking **Stop** terminates the accumulation of V5 call statistics.

8 To set all Uplink and Downlink FER (Frame Error Rate) counters to 0, click **Reset Counters**.

The following V5 call statistics appear in the list of parameters in the *V5 Call Statistics* dialog box:

TCL Total Call Length. The total length of calls that occurred during the selected time period. This is measured from the request to allocate the air time slot for voice to the request to release the air time slot.

MSC Minimum Simultaneous Calls. The minimum number of simultaneous calls that occurred during the selected time period.

PSC Peak Simultaneous Calls. The maximum number of simultaneous calls that occurred during the selected time period.

MNSC Mean Simultaneous Calls. The average number of simultaneous calls that occurred during the selected time period.

NCE Number of Call Establishments. The number of calls establishments that occurred during the selected time period.

NFCE Number of Failed Call Establishments. The percentage of call establishments that failed due to lack of free air channels during the selected time period.

NTC Number of Terminated Calls. The percentage of calls terminated due to air link loss (ALL) during the selected time period.

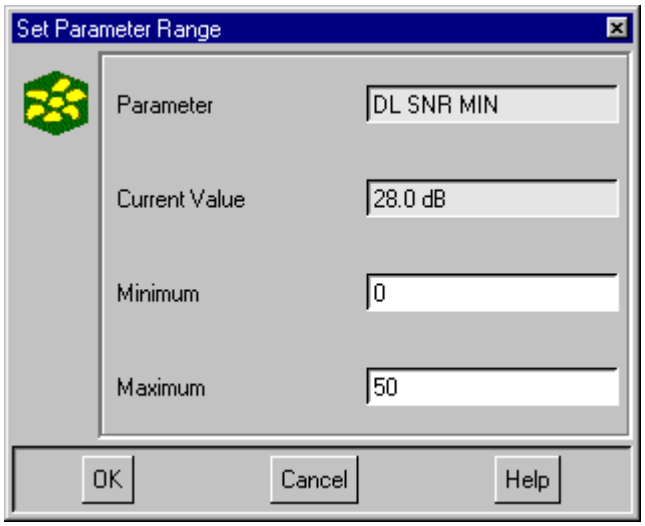
Setting the Parameter Range

WALKnet enables the display of several graphs simultaneously in the *V5 Call Statistics* dialog box. The counters have different ranges and you can specify the minimum and maximum values for each counter in the *Set Parameter Range* dialog box. WALKnet then uses the minimum and maximum values to scale the graphical display for the counter.

To set the parameter range:

1 Double-click the value column (the column to the right of the **Graph** column) of a selected parameter. The *Set Parameter Range* dialog box is displayed as shown below:

Figure 8-8: Set Parameter Range Dialog Box



2 Specify a minimum value for the parameter in the **Minimum** field and a maximum value in the **Maximum** field.

3 Click **OK**.

Performance Data Collection

This section describes how WALKnet collects the air performance monitoring data and V5 call statistics data from BS-Bus and TS-Bus. It also describes how you can monitor the collection process and configure some parameters, such as the frequency of collection cycles.

WALKnet automatically collects the air performance monitoring data and V5 call statistics data from all BS-BUs and TS-BUs defined on the current map, and saves it in the database.

BS-BUs accumulate data in 15-minute intervals for a 24-hour period. WALKnet performs data collection on a cyclical basis and collects closed intervals that it has not previously collected. A cycle ends when all the BS-BUs have been processed. You can specify how often WALKnet runs a data collection cycle, whether to collect from BS-BUs concurrently or consecutively and whether to eliminate selected BS-BUs from the collection process. Refer to "Configuring Performance Data Collection" on page 8-35.

WALKnet collects data in two modes: Client and Server. In Server mode, WALKnet reads the data from the BS-BUs and TS-BUs and stores it in the database. In Client mode, WALKnet does not read from the BS-BUs or the TS-BUs. Instead, it provides a view into the database and information about what another WALKnet session is collecting. This is to avoid the possibility of multiple WALKnet sessions collecting and storing data in the database.

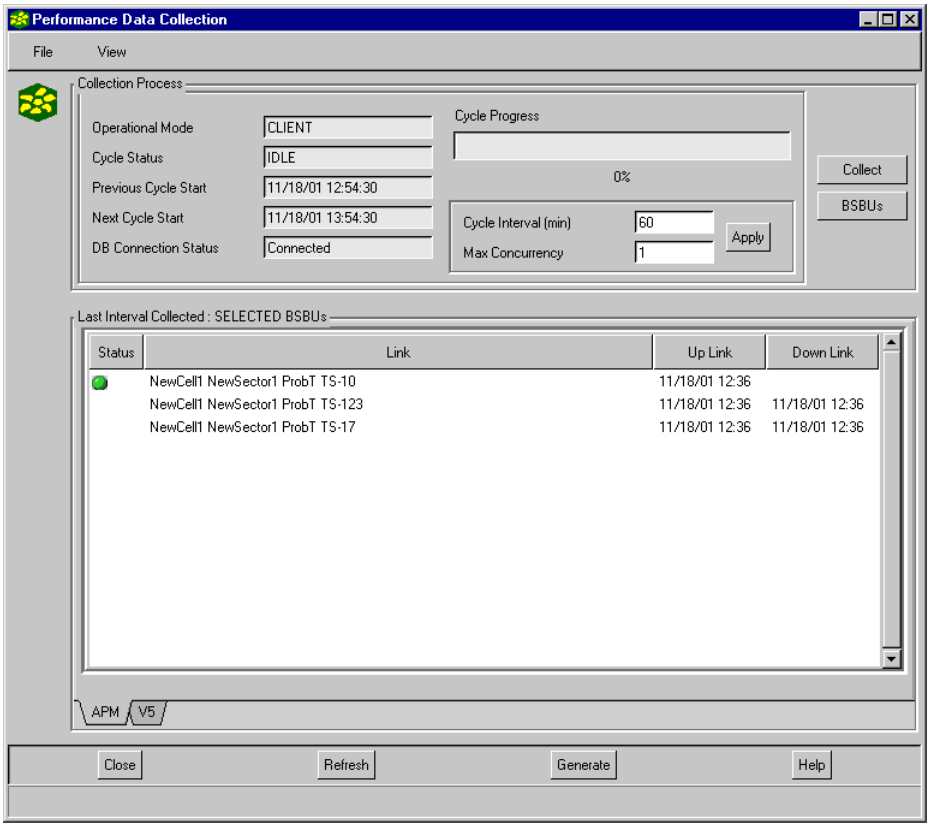
A typical management system configuration includes one workstation running WALKnet configured as a collection Server and zero or more WALKnet sessions (on the same or a different workstation) configured as collection Clients. You can run two or more WALKnet sessions configured as collection Servers only if they are not using the same database, or if there is no overlapping of BS-BUs between them.

Data collection is performed as long as WALKnet is running. You can monitor and configure the collection process from the *Performance Data Collection dialog* box.

To display the Performance Data Collection dialog box:

In the Main window, select **Collection** from the *Performance* menu. The *Performance Data Collection* dialog box is displayed as shown below:

Figure 8-9: Performance Data Collection Dialog Box



The *Collection Process* area of the dialog box displays data collection parameters. You can configure some parameters and initiate the collection process mid-cycle. Refer to "Configuring Performance Data Collection" on page 8-35.

The lower half of the dialog box displays information about the previous or current collection cycle. Information about air performance data is displayed in the **APM** tab and information about V5 call statistics is displayed in the **V5** tab. Refer to "Viewing the Collection Process" on page 8-26.

Notes

Click **Refresh** at any time to update the information displayed in the *Performance Data Collection* dialog box.

Viewing the Collection Process

Data collection is performed as long as WALKnet is running. You can monitor the process at any time from the *Performance Data Collection* dialog box. Each area of the dialog box is described below. The following tools are available when viewing the collection process:

- ◇ "Viewing Data for a Selected BS-BU" on page 8-30.
- ◇ "Filtering the Display of BS-BUs" on page 8-32.
- ◇ "Displaying Database Errors" on page 8-34.

Performance Data Collection Dialog Box

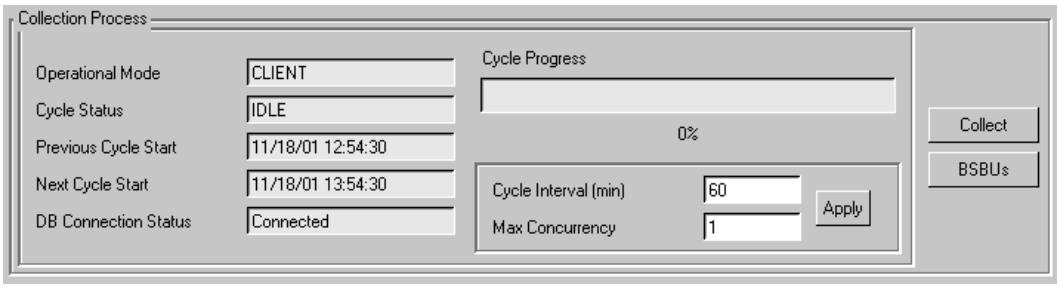
The *Performance Data Collection* dialog box includes parameters about the collection cycle and displays information about the collection process for each BS-BU. The *Performance Data Collection* dialog box conatains the following three areas:

- ◇ "Collection Process Area" on page 8-26
- ◇ "APM Tab" on page 8-27
- ◇ "V5 Tab" on page 8-29

Collection Process Area

The **Collection Process** area includes parameters that define the collection process, such as the frequency of the process, as well as information about the current or last collection cycle, as shown below:

Figure 8-10: Collection Process Area



The **Collection Process** area includes the following read-only fields:

Operational Mode	The operational mode of the WALKnet session: **Client** or **Server**.
Cycle Status	The status of the collection cycle. **Busy**: WALKnet is currently collecting data from BS-BUs (Server mode) or receiving information from the database (Client mode). **Idle**: WALKnet is between collection cycles.
Previous Cycle Start	The start time of the previous collection cycle. When the **Cycle Status** is **Busy**, this field is called **Current Cycle Start** and displays the start time of the current collection cycle.
Next Cycle Start	The start time of the next collection cycle.
DB Connection Status	The connection status. WALKnet must be connected to the database **(Connected)** to perform data collection. If there is no connection, WALKnet will try to connect every minute.
Cycle Progress	Displays the progress of the collection process when WALKnet is collecting data.

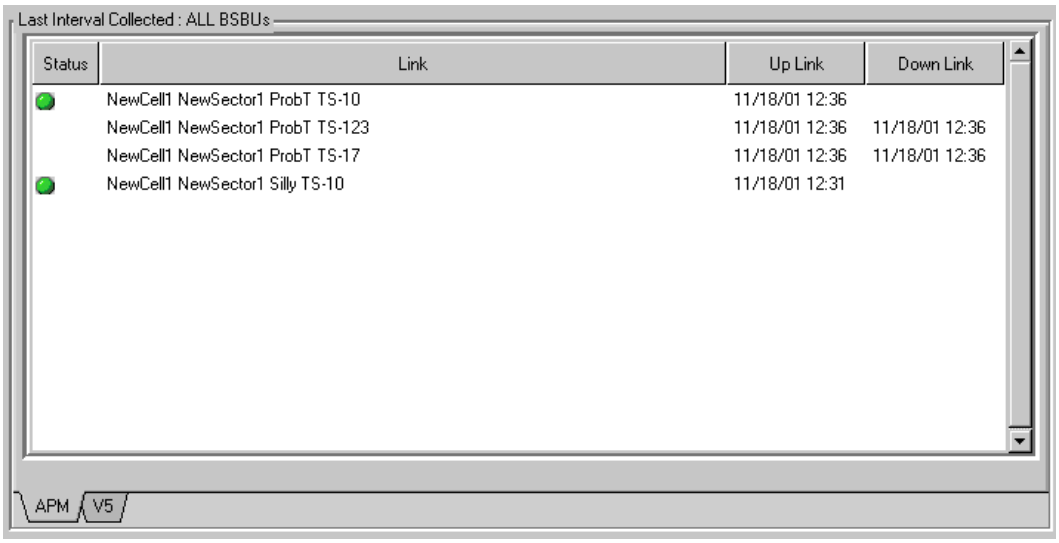
Notes

The **Cycle Interval (min)** and **Max Concurrency** fields can be modified and are described in "Configuring Performance Data Collection" on page 8-35

APM Tab

The **APM** tab displays information about the air performance monitoring data collected during the current or last collection cycle, as shown below:

Figure 8-11: APM Tab



The **APM** tab includes the following read-only fields:

Status — The status of the BS-BU. A LED is displayed for every BS-BU, indicating the following:

- When the **Cycle Status** is **Idle**, the LED indicates the BS-BU completion status of the last collection cycle:
  - **Green**: OK
  - **Red**: Problem – error or timeout
  - **Gray**: BS-BU disabled for collection purposes

- When the **Cycle Status** is **Busy**, the LED indicates the BS-BU status during the current collection cycle:
  - **No LED**: Collection not yet started
  - **Green**: Collection completed successfully
  - **Red**: Collection failed
  - **Yellow**: Collection in progress
  - **Gray**: BS-BU disabled for collection purposes

Link — A description of the link in the following format: (cell name) (sector name) (BS-BU name or IP address) (TS-BU Customer ID).

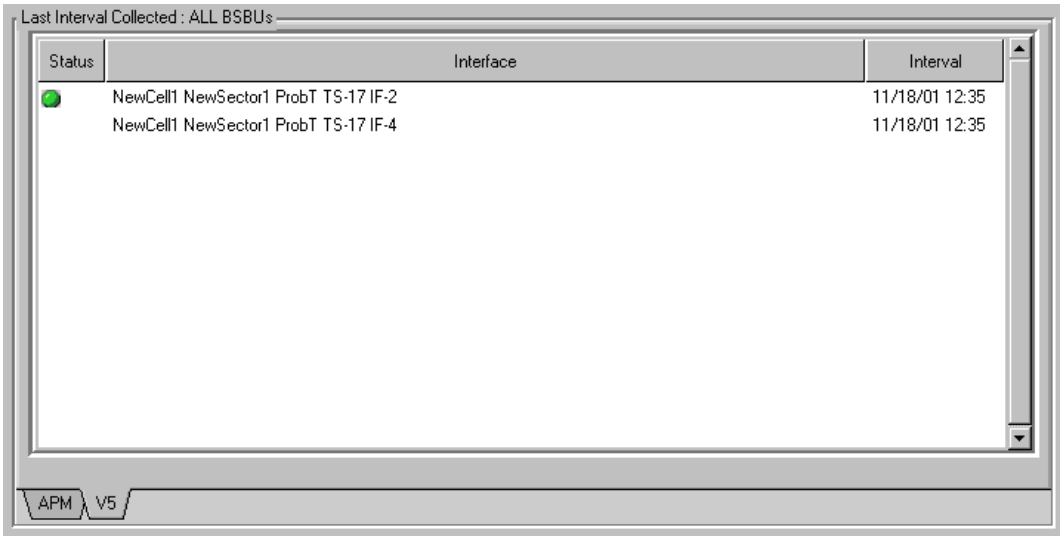
Up Link — The date and time of the last interval collected for the uplink (BS-BU).

Down Link — The date and time of the last interval collected for the downlink (TS-BU).

V5 Tab

The **V5** tab displays information about the V5 call statistics data collected during the current or last collection cycle as shown below:

Figure 8-12: V5 Tab



The V5 tab includes the following read-only fields:

Status The status of the BS-BU. A LED is displayed for every BS-BU, indicating the following:

- When the **Cycle Status** is **Idle**, the LED indicates the BS-BU completion status of the last collection cycle:
  Green: OK
  Red: Problem – error or timeout
  Gray: BS-BU disabled for collection purposes

- When the **Cycle Status** is **Busy**, the LED indicates the BS-BU status during the current collection cycle:
  No LED: Collection not yet started
  Green: Collection completed successfully
  Red: Collection failed
  Yellow: Collection in progress
  Gray: BS-BU disabled for collection purposes

Interface A description of the link in the following format: (cell name) (sector name) (BS-BU name or IP address) (TS-BU Customer ID) (IF - V5 Interface Index).

Interval The date and time of the last interval collected for the BS-BU. The BS-BU accumulates V5 call statistics for the whole interface so there is no distinction between uplink and downlink.

Viewing Data for a Selected BS-BU

You can view all the data saved in the database for a selected BS-BU or TS-BU at any time.

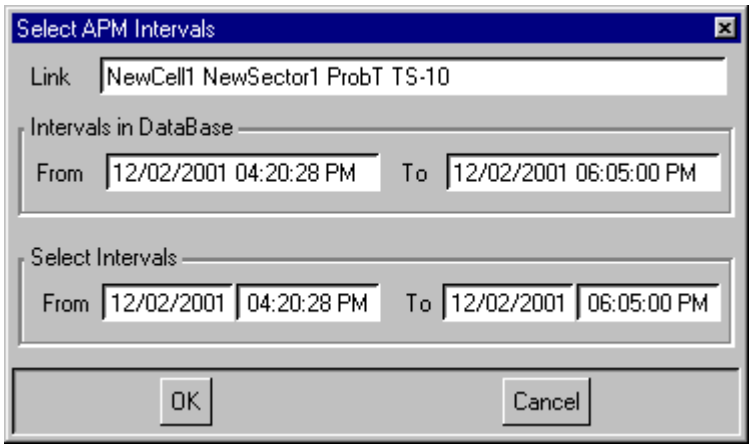
The data is stored in Excel files (CSV format), named **APM_<BS-BU IP Address>_<TS_BU Customer Id>**.

By default, data files are saved in the directory **<WALKnet root>\NMSApmLog\<map_name>**.
You can change the directory name by setting the environment variable **NmsApmLogDir**.

To view data collected for a specific BS-BU/TS-BU:

1 In the *Performance Data Collection* dialog box, select a BS-BU/TS-BU from the **APM** or **V5** tab, and click **Generate**. The *Select APM Intervals* dialog box is displayed as shown below:

Figure 8-13: Select APM Intervals Dialog Box

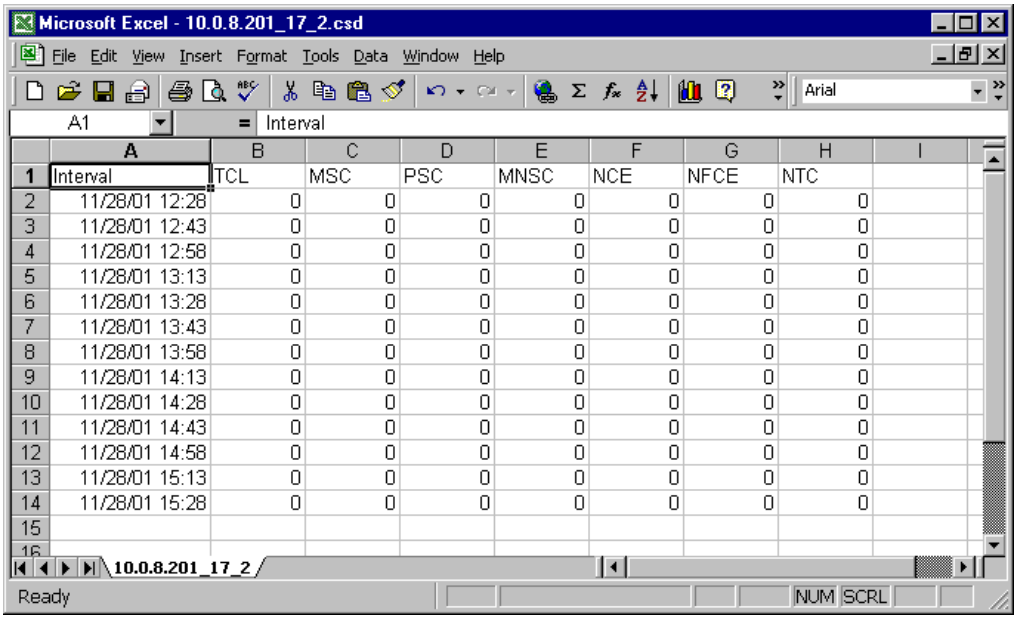


This dialog box indicates the available time period for which data for the selected link is available in the database.

2 In the **Select Intervals** area, select the time period for which you want to view data collected for the selected link.

3 Click **OK**. All the data saved in the database for the selected link during the selected time period is displayed. The following example shows the data displayed for a TS-BU selected in the **V5** tab:

Figure 8-14: Generated Data File



	A	B	C	D	E	F	G	H	I
1	Interval	TCL	MSC	PSC	MNSC	NCE	NFCE	NTC	
2	11/28/01 12:28	0	0	0	0	0	0	0	
3	11/28/01 12:43	0	0	0	0	0	0	0	
4	11/28/01 12:58	0	0	0	0	0	0	0	
5	11/28/01 13:13	0	0	0	0	0	0	0	
6	11/28/01 13:28	0	0	0	0	0	0	0	
7	11/28/01 13:43	0	0	0	0	0	0	0	
8	11/28/01 13:58	0	0	0	0	0	0	0	
9	11/28/01 14:13	0	0	0	0	0	0	0	
10	11/28/01 14:28	0	0	0	0	0	0	0	
11	11/28/01 14:43	0	0	0	0	0	0	0	
12	11/28/01 14:58	0	0	0	0	0	0	0	
13	11/28/01 15:13	0	0	0	0	0	0	0	
14	11/28/01 15:28	0	0	0	0	0	0	0	
15									
16									

Filtering the Display of BS-BUs

In the Performance Data Collection dialog box, you can display all BS-BUs defined on the current map or filter the display to show only selected BS-BUs or only the BS-BUs enabled for collection (described in "Configuring Performance Data Collection" on page 8-35). Filtering the display of BS-BUs is accomplished per tab or per type of data. This means that any filtering applied in the **APM** tab is not automatically reflected in the **V5** tab, and vise versa.

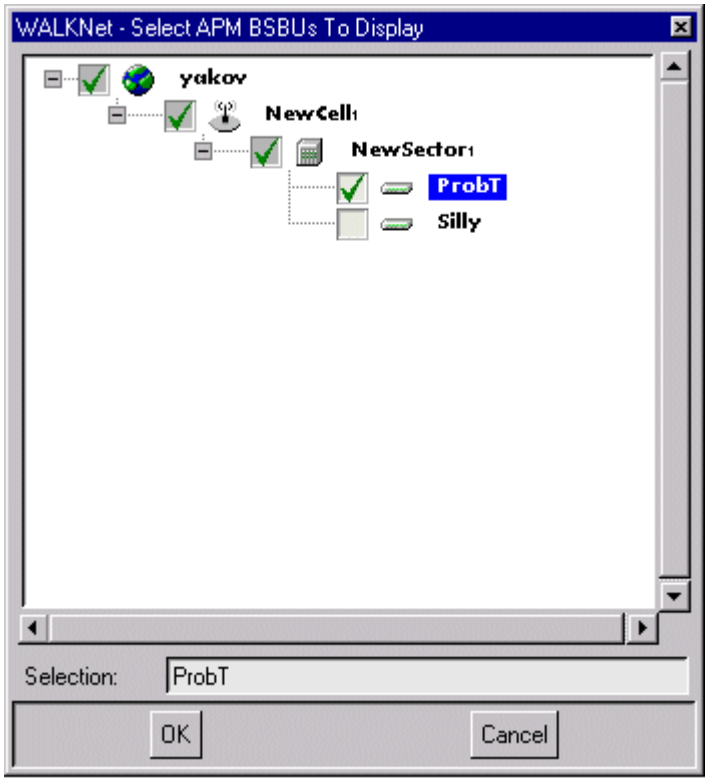
To filter the display:

1 Select the **APM** tab or the **V5** tab.

2 From the **View** menu in the *Performance Data Collection* dialog box, select **Display Mode**, and then one of the following:

- ◇ **Show All**: To display all the BS-BUs defined on the current map.
- ◇ **Show Enabled**: To display only those BS-BUs enabled for collection. (For a description of how to eliminate a BS-BU from the collection process, refer to Steps 4 to 6 in "Configuring Performance Data Collection" on page 8-35.)
- ◇ **Select**: To display the Select *APM BSBUs To Display* dialog box, as shown below:

Figure 8-15: Select APM BSBUs To Display Dialog Box



Select the BS-BUs that you want to display in the selected tab and click **OK**. Only the selected BS-BUs are displayed in the selected tab.

Notes

The title above the tab indicates the selected filter: **ALL BSBUs**, **ENABLED BSBUs**, or **SELECTED BSBUs**.

3 Select the other tab and filter the display as required. If you filtered the first tab to display only selected BS-BUs, the second tab is also titled **SELECTED BSBUs** and does not display anything (as no BS-BUs have yet been selected).

Notes

To display all the BS-BUs defined on the current map, select **Display Mode** and then **Show All**.

Displaying Database Errors

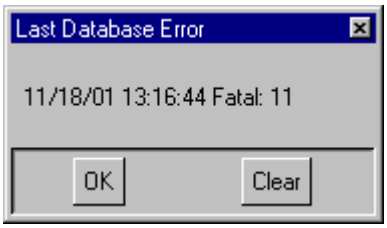
You can display the last database error by selecting **Last Database Error** from the *View* menu in the *Performance Data Collection* dialog box.

- If there is no database error, the *Last Database Error* message is displayed, as shown below:

Figure 8-16: Last Database Error Message Box-A

- If there is a database error, it is displayed as follows:

Figure 8-17: Last Database Error Message Box-B



Acknowledge the error by clicking **Clear**.

You can display a more detailed description of database errors by setting the environment variable **NMS_VERBOSE** to **TRUE**.

Configuring Performance Data Collection

You can specify how often WALKnet runs a data collection cycle, whether to collect from BS-BUs concurrently or consecutively, and which BS-BUs to include in the collection process. You can also initiate the collection process mid-cycle, stop, and resume the collection process.

To configure performance data collection:

1 In the *Performance Data Collection* dialog box, modify how often WALKnet collects data in the **Cycle Interval** field. The cycle interval must be between 15 to 180 minutes.

2 In the **Max Concurrency** field, enter the number of BS-BUs that WALKnet can collect data from at the same time. The value must be between 1 and 10.

Notes

To collect data more quickly, increase the **Max Concurrency** value.

3 Click **Apply**.

4 To specify which BS-BUs to include in the data collection process, click **BS-BUs**. The *Select APM BSBUs To Enable* dialog box is displayed as shown below:

Figure 8-18: Select APM BSBUs To Enable Dialog Box

Notes

By default, all BS-BUs are selected, meaning they will be included in the collection process.

Disabling BS-BUs from the collection process is done per tab or per type of data. In the above example, the **BS-BUs** button was clicked with the **APM** tab displayed and any subsequent disabling of BS-BUs relates only to the collection of air performance monitoring data.

5 Uncheck the BS-BUs that you want to eliminate from the data collection process and click **OK**. WALKnet only collects air performance monitoring data from the selected BS-BUs during the next collection cycle.

6 Repeat Steps 4 and 5 from the **V5** tab, if required, and uncheck the BS-BUs from which WALKnet will not collect V5 call statistics data.

Notes

To enable disabled BS-BUs, repeat Steps 4 to 6 and reselect the deselected BS-BUs.

When WALKnet is started or restarted, all BS-BUs are by default enabled and included in the collection process.

The specified parameters are applied during the next collection cycle (the start time for the next cycle is indicated in the **Next Cycle Start** field).

To run the collection process mid-cycle, click **Collect**. (The **Collect** button is only enabled if you are an administrator and authorized to work in Server mode.) WALKnet begins a collection cycle and the following indications occur in the Performance Data Collection dialog box:

- The **Operational Mode** is automatically switched from **Client** to **Server**, and the **Cycle Status** is **Busy**.

- The **Previous Cycle Start** field becomes **Current Cycle Start** and displays the start time of the current collection cycle.

- The **Collect** button becomes **Stop**, enabling you to stop the collection process at any time. When you click the **Stop** button, the collection process is stopped and WALKnet does not collect any more data (even at the next configured cycle start time) until the **Collect** button is activated once more.

- The progress of the cycle is indicated in the **Cycle Progress** bar and in the status bar in the Performance Data Collection dialog box. The status bar displays various messages, including cycle start and end, and collection errors (such as BS-BU timeouts and database errors).

- FThe LED to the left of each BS-BU in the **APM** and **V5** tabs reflects the status of the BS-BU, as follows:

  - ◇ **Green**: Collection completed successfully. This indicates that data has been successfully collected from the BS-BU and all the TS-BUs connected to the BS-BU.
  - ◇ **Red**: Collection failed. This indicates that there was a failure to collect data from the BS-BU or one of the TS-BUs connected to the BS-BU.
  - ◇ **Yellow**: Collection in progress. This indicates that data is currently being collected from the BS-BU or one of the TS-BUs connected to the BS-BU.
  - ◇ **Gray**: BS-BU disabled for collection purposes.

Once the collection process is complete, the **Cycle Status** is **Idle** until the next collection cycle, the start time of which is indicated in the **Next Cycle Start** field.

Notes

The first time the **Collect** button is clicked, the collection process switches from Client mode to Server mode. Once in Server mode, additional clicking of the **Stop**/**Collect** button has the effect of stopping and restarting the collection but does not change the mode. You are unable to switch back from Server mode to Client mode.

Frame Relay Statistics

When BS-BUs and TS-BUs are powered on, data is collected on Frame Relay performance, using error and traffic statistics counters, defined in RFC 1604.

WALKnet can poll the BS-BUs and TS-BUs at specified intervals and collect this data. The data is kept in WALKnet's internal database and displayed using the Frame Relay statistics application. Thus, for example, WALKnet can provide information on how many times during a specified interval there was user side reliability errors on a particular device. WALKnet collects data on a session basis, meaning it does not keep any history of Frame Relay statistics.

WALKnet provides the following Frame Relay statistics:

- Port signaling statistics relating to Frame Relay ports on BS-BUs and TS-BUs.
- End point traffic statistics relating to the Frame Relay service itself.

Port Signaling Statistics

From the *Frame Relay Signaling Statistics* dialog box, you can view the Frame Relay signaling statistics for all Frame Relay ports defined on a selected BS-BU or TS-BU.

To configure performance data collection:

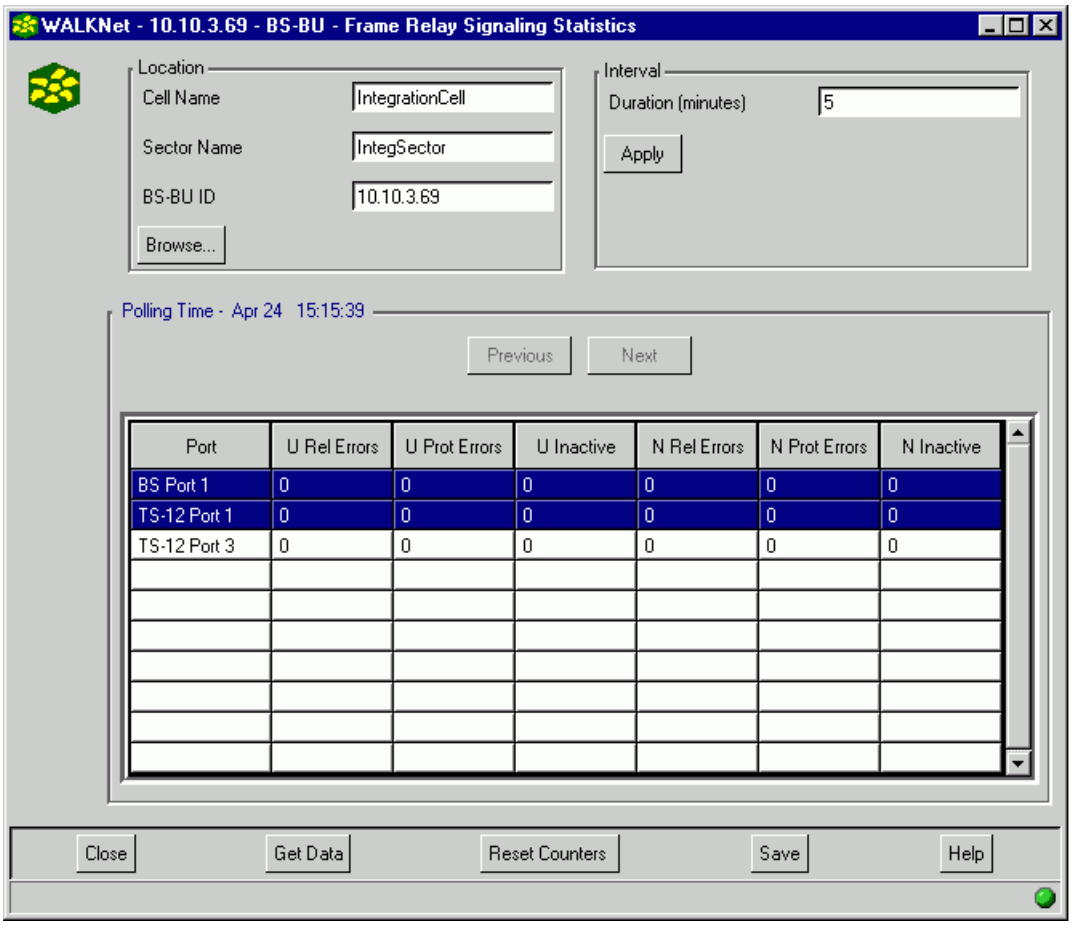
1 Access the Frame Relay Signaling Statistics dialog box in one of the following ways:

- ◇ In the Main window, from the *Performance* menu, select **Frame relay**, then **BS-BU** and then **Ports signaling**. Browse to the required BS-BU in the *Browse BS* dialog box, and click **OK**.
- ◇ In the Main window, from the *Performance* menu, select **Frame relay**, then **TS-BU**. Browse to the required TS-BU in the *Browse TS* dialog box, and click **OK**.
- ◇ In the Base Station BU View, from the *Performance* menu select **Frame relay**, then **Ports signaling**.

◇ In the Terminal Station BU View, from the Performance menu select **Frame relay**.

The *Frame Relay Signaling Statistics* dialog box is displayed as shown below:

Figure 8-19: Frame Relay Signaling Statistics Dialog Box



Notes

The **Polling Time** information displays the last time that WALKnet polled the selected device.

2 Specify how often WALKnet polls the selected device in the **Duration (minutes)** field and click **Apply**. You can specify between 5 and 60 minutes.

Notes

WALKnet stores data in a cyclic buffer in its database for up to 96 intervals (whatever length the interval).

3 Click **Get Data**. The **Get Data** button becomes a **Stop** button and WALKnet polls the selected device at the specified intervals, displaying the collected data for each Frame Relay port on the selected device. When the *Frame Relay Signaling Statistics* dialog box is accessed for a BS-BU, statistics relating to the Frame Relay ports on the BS-BU itself and all its registered TS-BUs are displayed. When the *Frame Relay Signaling Statistics* dialog box is accessed for a TS-BU, only statistics relating to the Frame Relay ports on the TS-BU itself are displayed.

For each Frame Relay port, the following statistics are displayed:

U Rel Errors User-side Link Reliability Error. The number of user-side local in-channel signaling link reliability errors (meaning non-receipt of Status/Status Enquiry messages or invalid sequence numbers in a Link Integrity Verification Information Element).

U Prot Errors User-side protocol Error. The number of user-side local in-channel signaling protocol errors (meaning protocol discriminator, message type, call reference, and mandatory information element errors).

U Inactive Channel Inactive. The number of times the user-side channel was declared inactive (meaning N392 errors in N393 events).

N Rel Errors Network Side Protocol Error. The number of network-side local in-channel signaling links reliability errors (meaning non-receipt of Status/Status Enquiry messages or invalid sequence numbers in a Link Integrity Verification Information Element). This counter is not displayed when the Frame Relay Signaling Statistics dialog box is accessed for a TS-BU.

N Prot Errors Network Side Protocol Error. The number of network-side local in-channel signaling protocol errors (meaning protocol, discriminator, message type, call reference, and mandatory information element errors). This counter is not displayed when the Frame Relay Signaling Statistics dialog box is accessed for a TS-BU.

N Inactive Network Side Channel Inactive. The number of times the network-side channel was declared inactive (meaning N392 errors in N393 events). This counter is not displayed when the Frame Relay Signaling Statistics dialog box is accessed for a TS-BU.

4 Click **Stop** at any time to stop the data collection.

From the *Frame Relay Signaling Statistics* dialog box, you can do the following:

- Use the **Previous** and **Next** buttons to scroll through the data collected in previous intervals.
- Click **Reset Counters** to reset the counters for selected ports.
- Click **Save** to save the collected data in an Excel file. The full path name of the generated file is $NMS_LOG/FR/<yy:mm:dd>.fsm.
- Set thresholds for counters. A counter value is highlighted when it exceeds its threshold. Refer to "Setting Thresholds" on page 8-43.
- Display a Frame Relay signaling graph for a selected counter. Refer to "Displaying Signaling Graphs" on page 8-44.

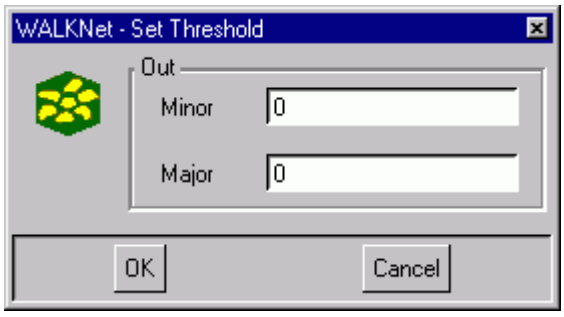
Setting Thresholds

You can specify thresholds for a signaling counter so that counter values exceeding specified values are highlighted. Thresholds are applied for the values received during 10-minute intervals. If an interval other than 10 minutes is defined, counter values are adjusted correspondingly.

To set thresholds for a signaling counter:

1 In the *Frame Relay Signaling Statistics* dialog box, right-click anywhere in the column of a counter and select **Set Thresholds**. The *Set Threshold* dialog box is displayed, as shown below:

Figure 8-20: Set Threshold Dialog Box



2 In the **Minor** field, set a minor value for the counter.

3 In the **Major** field, set a major value for the counter.

4 Click **OK**.

When the counter value exceeds the minor threshold, it is highlighted in yellow, and when it exceeds the major threshold, it is highlighted in red. The threshold functionality is not applied to the first interval.

Notes

When the **Minor** and **Major** fields are 0, no thresholds are applied to the counter.

Displaying Signaling Graphs

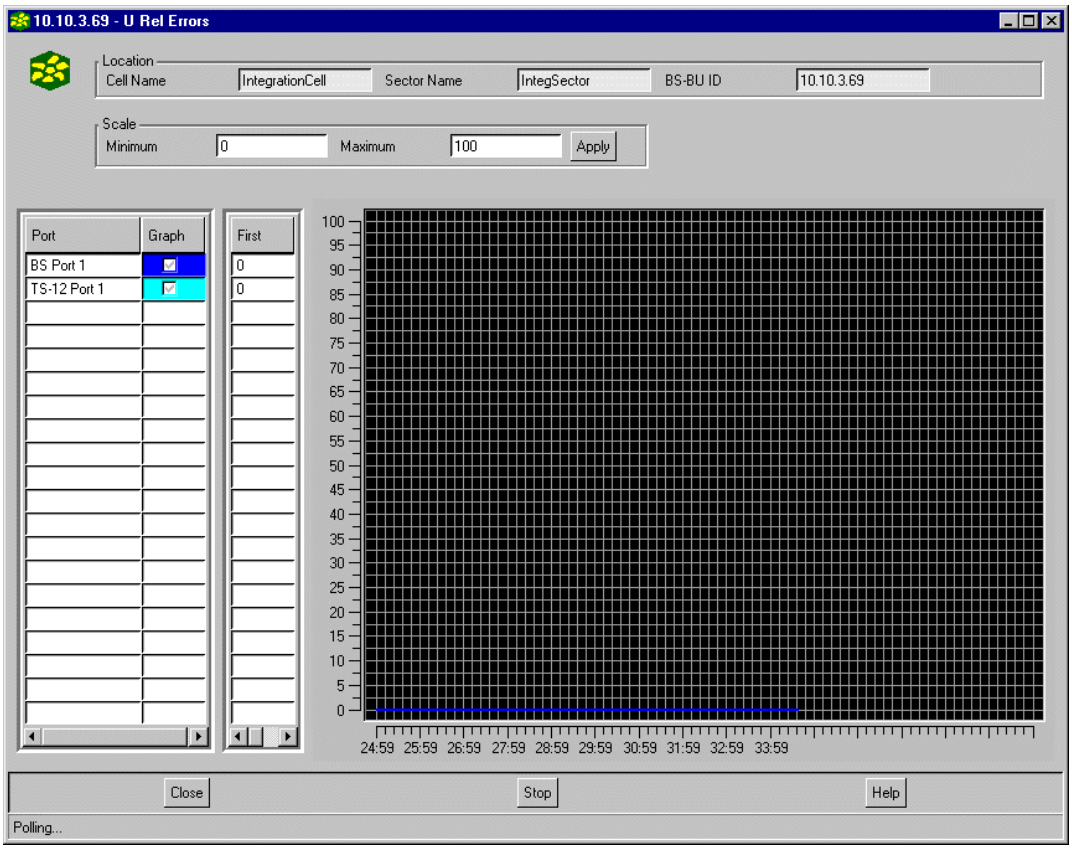
You can display a signaling graph for a selected counter that shows the statistics for a selected port or ports. WALKnet polls the device every 10 seconds and displays the statistics relating to a selected counter in the signaling graph.

To display a signaling graph:

1 In the *Frame Relay Signaling Statistics* dialog box, select one or more ports as required.

2 Right-click anywhere in the column of a counter and select **Graph**. A signaling graph for the selected counter is displayed. A sample signaling graph for the **U Rel Error**s counter is shown below:

Figure 8-21: Signaling Graph



3 In the list of ports, select the **Graph** checkbox to the right of a port to display the counter statistics for that port in the graph.

4 Click **Get Data**. Data is displayed in the graph for the selected ports as it is collected. Values for the selected counter received after the first 10 second polls are displayed permanently in the **First** fields. The difference between the value from the current poll and the previous poll is displayed in the Value fields.

Notes

You can change the scale of the graph by entering values in the **Minimum** and **Maximum** fields in the **Scale** area and clicking **Apply**.

5 Click **Stop** at any time to stop the collection of data.

End Point Traffic Statistics

The end point traffic statistics relate to the Frame Relay services configured over the Frame Relay ports.

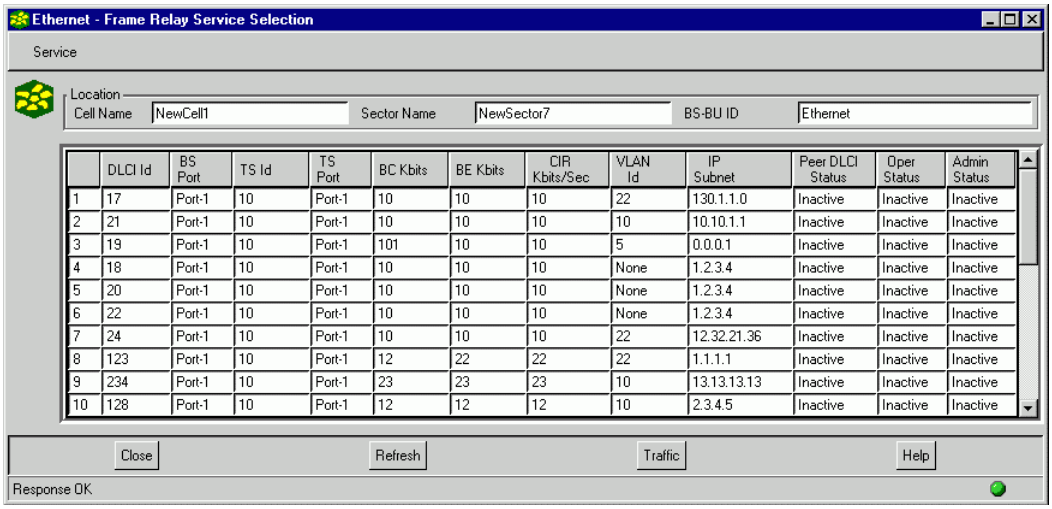
To view end point traffic statistics:

1 Access the Frame Relay Service Selection dialog box in one of the following ways:

- ◇ In the Main window, from the *Performance* menu, select **Frame relay**, then **BS—BU**, and then **End point traffic**. Browse to the required BS-BU in the Browse BS dialog box, and click **OK**.
- ◇ In the Base Station BU View, from the *Performance* menu, select **Frame relay**, then **End point traffic**.

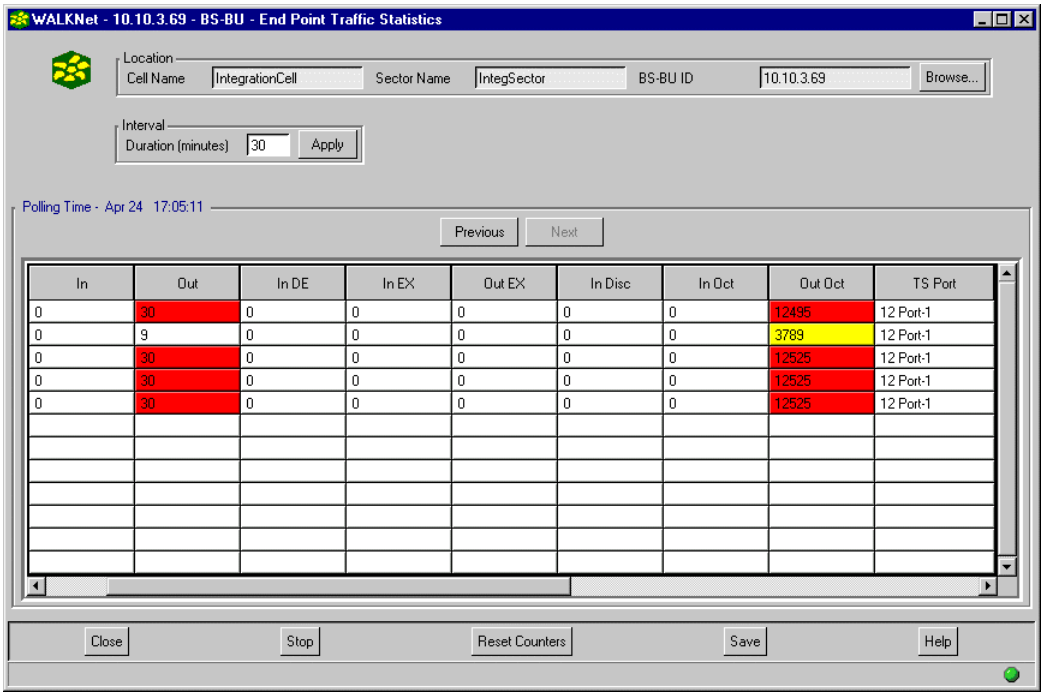
The *Frame Relay Service Selection* dialog box, as shown below, is displayed showing a list of services defined over the ports on the selected BS-BU.

Figure 8-22: Frame Relay Service Selection Dialog Box


Ethernet - Frame Relay Service Selection
Service
Location
Cell Name
NewCell1
Sector Name
NewSector7
BS-BU ID
Ethernet
DLCI Id
BS Port
TS Id
TS Port
BC Kbits
BE Kbits
CIR Kbits/Sec
VLAN Id
IP Subnet
Peer DLCI Status
Oper Status
Admin Status
1 17 Port-1 10 Port-1 10 10 10 22 130.1.1.0 Inactive Inactive Inactive
2 21 Port-1 10 Port-1 10 10 10 10 10.10.1.1 Inactive Inactive Inactive
3 19 Port-1 10 Port-1 101 10 10 5 0.0.0.1 Inactive Inactive Inactive
4 18 Port-1 10 Port-1 10 10 10 None 1.2.3.4 Inactive Inactive Inactive
5 20 Port-1 10 Port-1 10 10 10 None 1.2.3.4 Inactive Inactive Inactive
6 22 Port-1 10 Port-1 10 10 10 None 1.2.3.4 Inactive Inactive Inactive
7 24 Port-1 10 Port-1 10 10 10 22 12.32.21.36 Inactive Inactive Inactive
8 123 Port-1 10 Port-1 12 22 22 22 1.1.1.1 Inactive Inactive Inactive
9 234 Port-1 10 Port-1 23 23 23 10 13.13.13.13 Inactive Inactive Inactive
10 128 Port-1 10 Port-1 12 12 12 10 2.3.4.5 Inactive Inactive Inactive
Close
Refresh
Traffic
Help
Response OK

2 Select one or more services as required and click **Traffic**. The *End Point Traffic Statistics* dialog box is displayed as shown below:

Figure 8-23: End Point Traffic Statistics Dialog Box



Notes

The **Polling Time** information displays the last time that WALKnet polled the selected device.

3 Specify how often WALKnet polls the selected device in the **Duration (minutes)** field, and click **Apply**. You can specify between 5 and 60 minutes.

Notes

WALKnet stores data in a cyclic buffer in its database for up to 96 intervals (whatever length the interval).

4 Click **Get Data**. The **Get Data** button becomes a **Stop** button and WALKnet polls the selected device at the specified intervals, displaying the collected data for each Frame Relay port on the BS-BU and TS-BU over which the selected service (or services) is configured. Scroll to the right to see the data for the TS-BU ports.

For each Frame Relay port on the BS-BU and TS-BU, the following statistics are displayed:

In — In Frames. The number of frames received by the network (ingress) for this PVC end-point. This includes any frames discarded by the network due to submitting more than Bc + Be data, or due to any network congestion recovery procedures.

Out — Out Frames. The number of frames sent by the network (egress) regardless of whether they are Bc or Be frames for this PVC end-point.

In DE — In DE Frames. The number of frames received by the network (ingress) with the DE bit set to (1) for this PVC end-point.

In EX — In Excess Frames. The number of frames received by the network (ingress) for this PVC end-point that were treated as excess traffic. Frames which are sent to the network with DE bit set to zero are treated as excess when more than Bc bits are submitted to the network during the Committed Information Rate Measurement Interval (Tc).

Excess traffic may or may not be discarded at the ingress if more than Bc + Be bits are submitted to the network during Tc. Frames, which are sent to the network with DE bit set to one, are also treated as excess traffic.

Out EX — Out Excess Frames. The number of frames sent by the network (egress) for this PVC end-point that were treated as excess traffic. (The DE bit may be set to one.)

In Disc — In Discards Frames. The number of frames received by the network (ingress) that were discarded due to traffic enforcement for this PVC end-point.

In Oct — In Octets. The number of octets received by the network (ingress) for this PVC end-point. This counter should only count octets from the beginning of the Frame Relay header field to the end of user data.

Out Oct — Out Octets. The number of octets sent by the network (egress) for this PVC end-point. This counter should only count octets from the beginning of the Frame Relay header field to the end of user data.

5 Click **Stop** at any time to stop the collection of data.

From the *End Point Traffic Statistics* dialog box, you can do the following:

- Use the **Previous** and **Next** buttons to scroll through the data collected in previous intervals.
- Click **Reset Counters** to reset the counters for all or selected ports.
- Click **Save** to save the collected data in an Excel file. The full path name of the generated file is **$NMS_LOG\FR\<yy:mm:dd hh:mm>.ftm**.
- Set thresholds for counters. A counter value is highlighted when it exceeds its threshold. This procedure is the same as when setting thresholds for counters in the *Frame Relay Signaling Statistics* dialog box, described in "Setting Thresholds" on page 8-43.
- Display a Frame Relay end point traffic graph for a selected counter. This procedure is the same as when displaying graphs from the *Frame Relay Signaling Statistics* dialog box, described in "Displaying Signaling Graphs" on page 8-44.

WALKair 3000 IP SLA Performance Monitoring

WALKair 3000 provides performance monitoring for IP SLAs for both uplink and downlink directions. The downlink parameters refer to measurements at the Terminal Station, and uplink parameters refer to measurements at the Base Station. A graphical representation of traffic rates in kbps is displayed for CIR (Committed Information Rate), MIR (Maximum Information Rate), and the traffic priority levels configured for the specific IP SLAs. Each parameter is displayed in a unique color to enable easy viewing.

WALKair 3000 provides IP SLA performance details for either a selected 15-minute interval or the last 24 hours. Up to 96 15-minuite intervals are stored by the program.

Accessing IP SLA Performance Monitoring

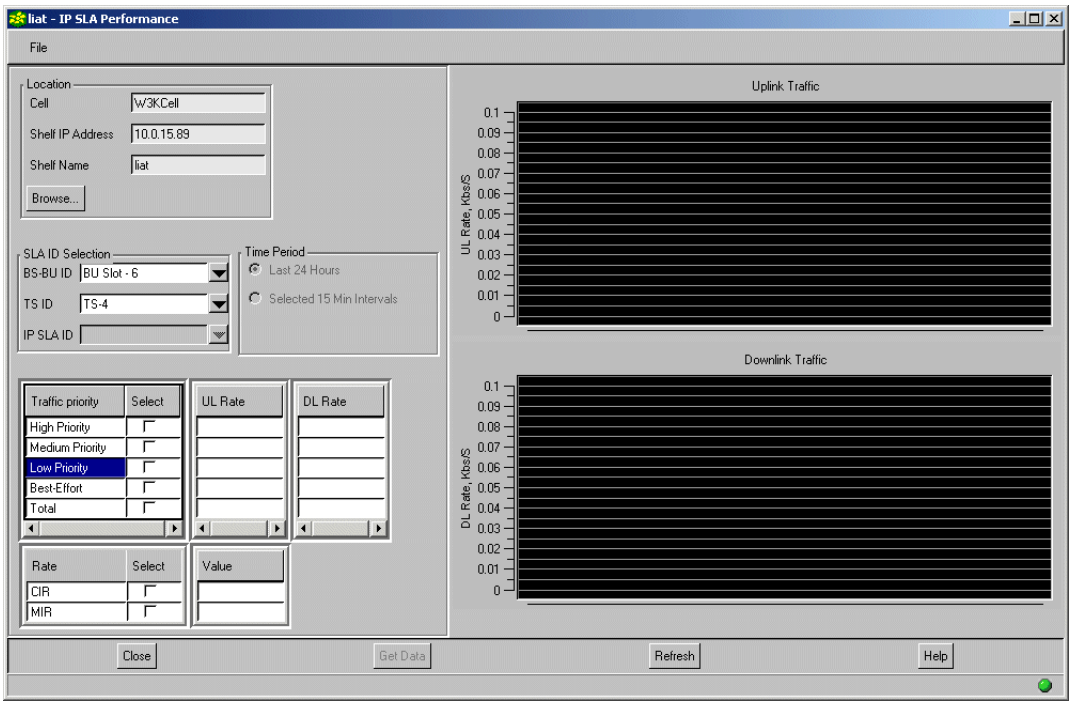
To access IP SLA performance monitoring:

1 In the Main window, select the *Performance* menu, then **IP SLA Performance**.

2 In the Browse Shelf window that opens, browse to the required shelf, and then click **OK**.

The IP SLA Performance dialog box is displayed as shown below.

Figure 8-24: IP SLA Performance Monitoring Dialog Box



The IP SLA Performance dialog is composed of the following areas:

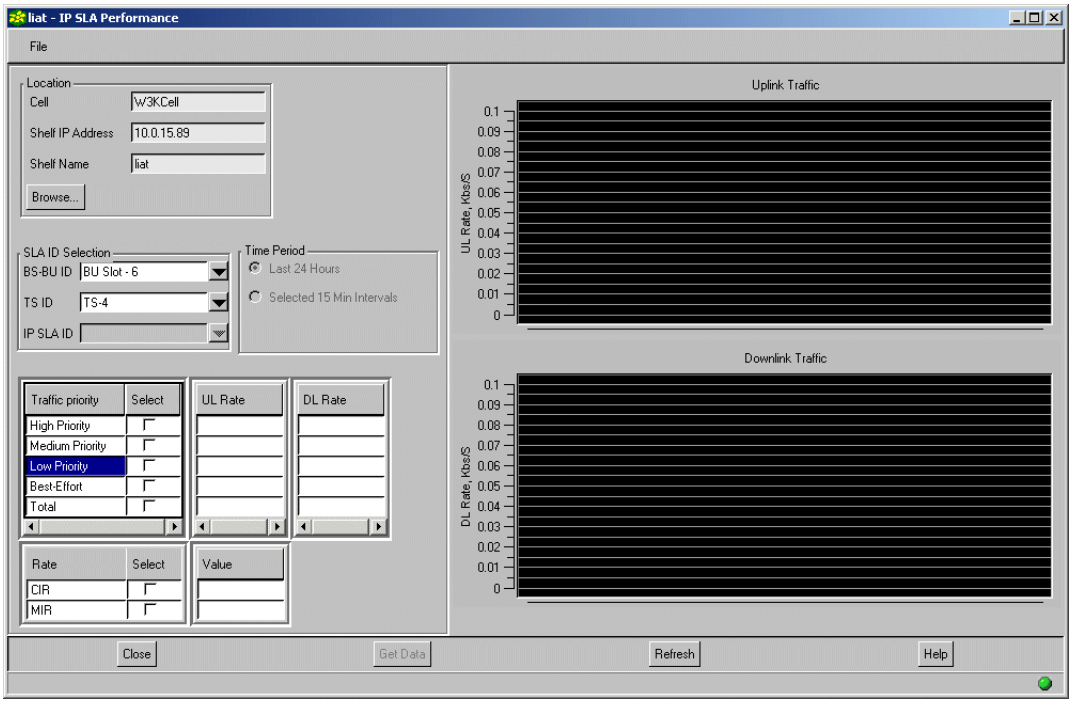
Location	Cell and Shelf details
SLA ID Selection	BS-BU, TS ID and IP SLA details
Time Period	Selecting the monitoring time period
Traffic	Selecting traffic priorities, CIR and MIR, for viewing
Graphs	Uplink and downlink graphical representations of the traffic rates in kbps

Executing WALKair 3000 IP SLA Performance Monitoring

To access IP SLA performance monitoring:

Referring to the figure below, if the required shelf does not appear in the location area of the dialog, click **Browse**, find and select the required shelf, and then click **OK**.

Figure 8-25: IP SLA Performance Monitoring



Notes

If an IP SLA has not been defined for the selected Terminal Station, no IP SLA will be available in the IP SLA ID drop down list. Defining IP SLAs is dealt with in Chapter 7, "System Services Configuration".

3 In the SLA ID selection area, select the required BS-BU, TS ID, and the SLA ID for the IP SLA to monitor.

4 Select the time period for which you want to view IP SLA Performance by selecting one of the following:

- ◇ **Current 15 Minutes**: Displays the reported performance parameters for the current 15 minute interval.
- ◇ **Last 24 Hours**: Displays the reported performance parameters for the last 24 hour period (including the current 15 minute interval).
- ◇ **Selected 15 Min Intervals**: Displays the reported performance parameters for up to 96 15 minute intervals.

5 If you select **Selected 15 Minute Intervals**, select the time interval by selecting start and finish times from the dropdown lists in the **From Time** and **To Time** fields.

Notes

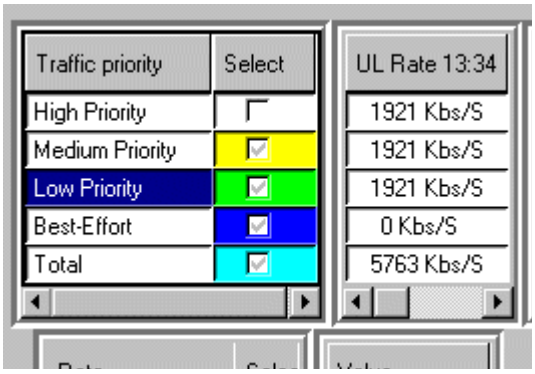
The **From Time** and **To Time** fields are only displayed when **Selected 15 Min Intervals** option is selected.

The following traffic types are monitored:

High Priority	IP traffic compliant with CIR forwarded to the highest priority guaranteed queue mapped according to ToS bits of packets (in platinum SLAs only).
Medium Priority	IP traffic compliant with the CIR is forwarded to the medium priority guaranteed queue mapped according to ToS bits of packets (in platinum or gold SLAs).
Low Priority	IP traffic compliant with the CIR is forwarded to the low priority guaranteed queue (in platinum, gold or silver SLAs).
Best Effort	IP traffic is mapped to the non-compliant queue. This traffic is forwarded only if bandwidth is available. This traffic results from the bronze SLA, regardless of rate and ToS, and from non-compliant (> CIR) traffic of platinum, gold or silver SLAs.
Total	Total summed traffic for the above 4 types.
CIR	The summarized IP SLA Committed Information Rate. The rate displayed is the sum of all CIRs assigned for all clients that share this SLA for IP services.
MIR	The Maximum Information Rate for the pipe, provided that free bandwidth is available for allocation to it. The pipe rate cannot exceed this value.

Select the required traffic types to display in the uplink and downlink graphs, by clicking the relevant check box.

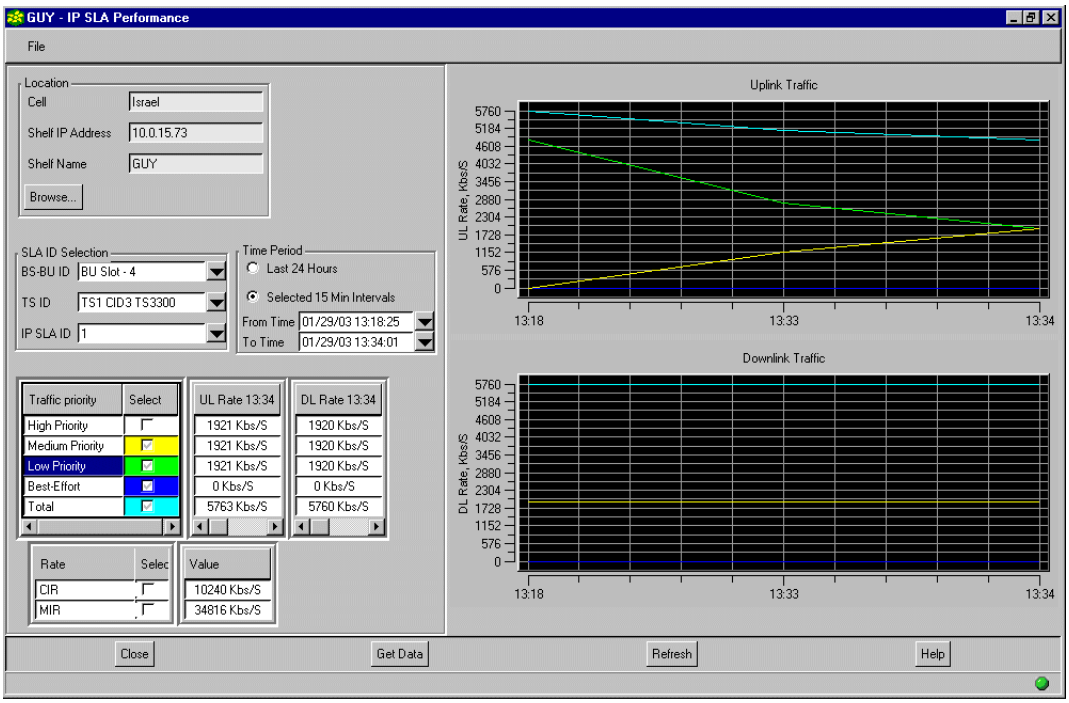
Figure 8-26: Selecting Traffic Types to display



When a check box is checked, the display color for the traffic type appears.

6 Click the **Get Data** button to display the required data. An example is shown below.

Figure 8-27: IP SLA Performance Monitoring Data



9

Chapter 9 - Security Management

In This Chapter:

- "Modifying the System Password" on page 9-2
- "Specifying User Types" on page 9-3

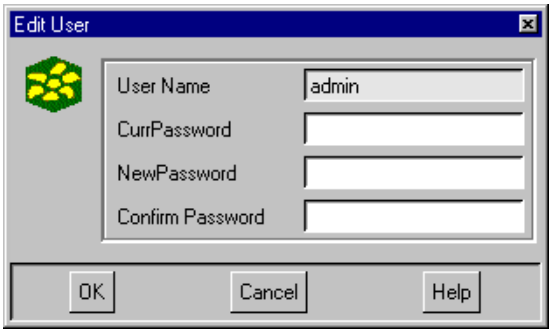
Modifying the System Password

To gain access to the WALKnet system, a user must enter a user name and a password for security and authentication purposes. The default user name is **admin** and the default password is **ad**. An administrator user can modify a user's password and define new users.

To change the system password:

1 In the Main window, select **Change Password** from the *Security* menu. The *Edit User* dialog box is displayed as shown below:

Figure 9-1: Edit User Dialog Box



The current user's name is displayed in the **User Name** field.

2 Enter the current password for the user in the **CurrPassword** field.

3 Enter the new password for the user in the **NewPassword** field.

4 Re-enter the new password in the **Confirm Password** field.

5 Click **OK**.

Note

All users can change their own password. Only Administrator users can change all users' passwords.

Specifying User Types

The following four types of users can be defined in the WALKnet system:

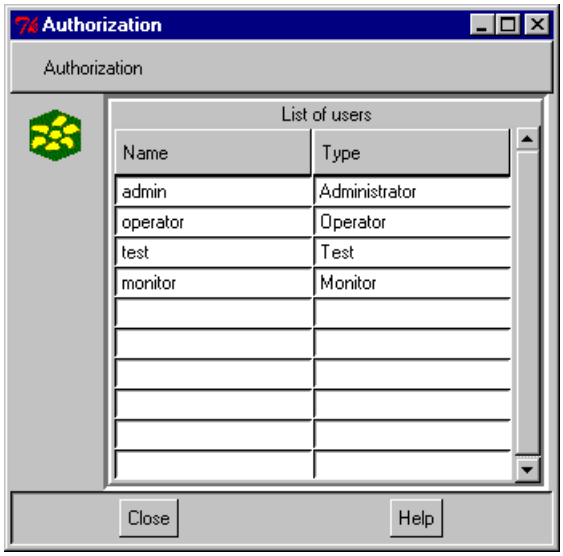
- **Administrator**: An Administrator has access to all parameters and functions in WALKnet.
- **Operator**: An operator can monitor the WALKair system and modify parameters, but cannot specify WALKnet user types or change system passwords.
- **Tester**: A tester has similar rights to the operator and can access testing functionality.
- **Monitor**: A monitor can monitor the WALKair system, but cannot modify parameters.

An Administrator user allocates user types from the *Authorization* dialog box.

To access the Authorization dialog box:

In the Main window, select **Authorization** from the *Security* menu. The *Authorization* dialog box is displayed:

Figure 9-2: Authorization Dialog Box



The *Authorization* dialog box displays a list of users defined in the WALKnet system and indicates their user type. From the *Authorization* dialog box, an Administrator user can add new users to the system, and edit and delete existing users.

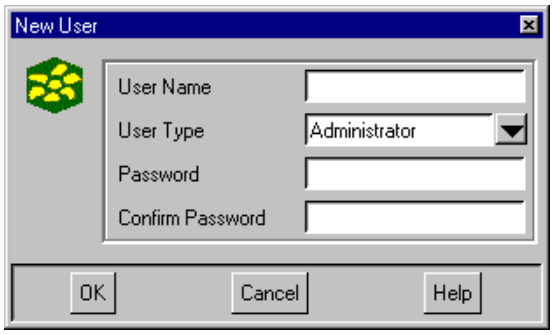
Adding New Users

An Administrator user can add new users to the WALKnet system, specifying a name, password and user type for each user.

To add a new user:

1 In the *Authorization* dialog box, select **Add User** from the *Authorization* menu. The *New User* dialog box is displayed:

Figure 9-3: New User Dialog Box



2 Enter a name for the new user in the **User Name** field. This is the name the user must enter in the *WALKnet Login* dialog box when starting WALKnet (see Chapter 2, "Getting Started").

3 Select a user type from the dropdown list in the **User Type** field. The user type will determine the amount of access the user will have to WALKnet functions.

4 Enter a password for the new user in the **Password** field. This is the password the user must enter in the *WALKnet Login* dialog box in order to access WALKnet (see Chapter 2, "Getting Started").

5 Re-enter the password in the **Confirm Password** field.

6 Click **OK**. The new user is displayed in the **List of users** in the *Authorization* dialog box.

Editing Users

An Administrator user can edit an existing user in the WALKnet system by modifying their user type and password.

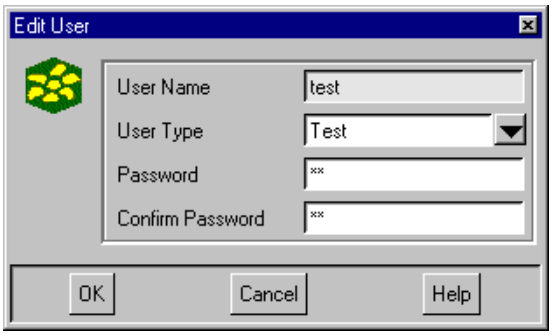
Note

All users can change their own password. Only Administrator users can change all users' passwords and user types.

To edit a user:

1 In the *Authorization* dialog box, select a user in the **List of users**, and select **Edit User** from the *Authorization* menu. The *Edit User* dialog box is displayed:

Figure 9-4: Edit User Dialog Box



2 Modify the user type and password, as required, and click **OK**.

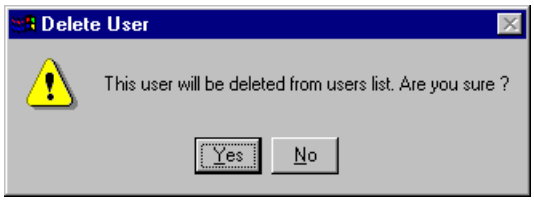
Deleting Users

An Administrator user can delete existing users from the WALKnet system. A deleted user cannot access the WALKnet application.

To delete a user:

1 In the *Authorization* dialog box, select a user in the **List of users**, and select **Delete User** from the *Authorization* menu. The Delete User confirmation message is displayed:

Figure 9-5: Delete User Confirmation Message



2 Click **Yes**. The user has been deleted from the users list.

10

Chapter 10 - Utilities

In This Chapter

- "Authorized Managers" on page 10-2
- "Software Download" on page 10-7
- "Configuration Upload and Download" on page 10-19
- "Versions and Reset Management" on page 10-27
- "Performing BER Tests" on page 10-44
- "Configuring SNMP Parameters" on page 10-48

Authorized Managers

The Authorized Manager is the management station that receives Traps and that can modify WALKair 1000 parameters. To enable the transmission of Traps and the modification of parameters, you must specify to WALKair the IP address of the Authorized Manager.

The Authorized Managers defined in your system are displayed in the *Authorized Managers* dialog box.

To access the Authorized Managers dialog box:

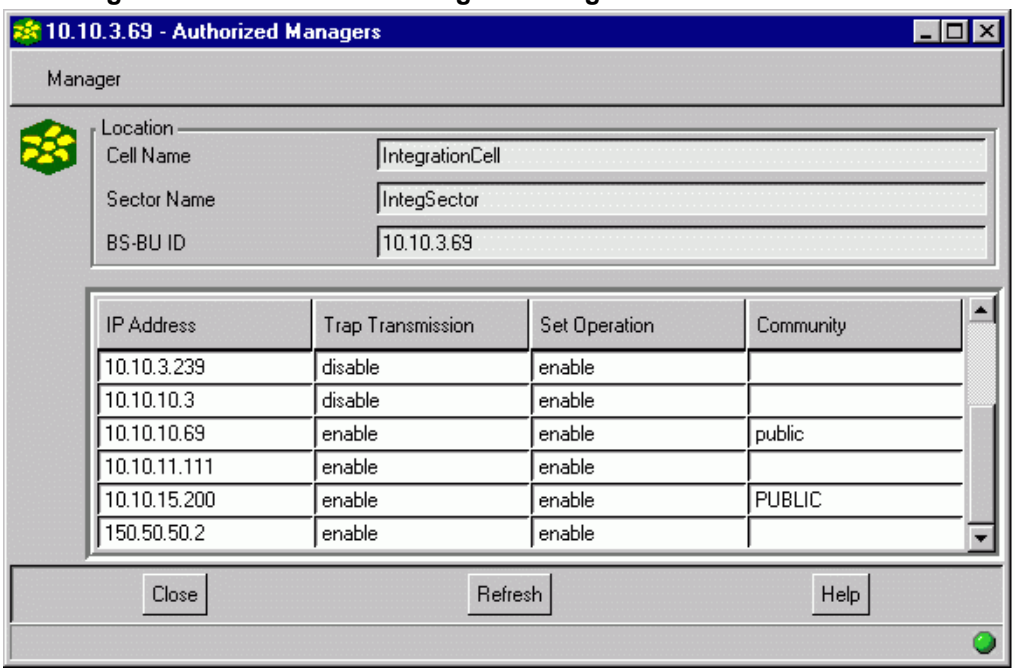
Access the Authorized Managers dialog box in one of the following ways:

- For WALKair 1000, in Base Station BU View, from the *BS-BU* menu, select **Authorized Managers**. For WALKair 3000, in Shelf View, select **Authorized Managers**.

- In the Main window, select **Authorized Managers** from the *Configuration* menu. Browse to the required BS-BU or Shelf in the *Browse BS-BU* dialog box, and click **OK**.

The *Authorized Managers* dialog box is displayed as shown below:

Figure 10-1: Authorized Managers Dialog Box



The read-only parameters displayed in the *Authorized Managers* dialog box are as follows:

Location area	
Cell Name	The name of the cell for which this BS-BU has been defined.
Sector Name	The name of the sector for which this BS-BU has been defined.
BS-BU ID	The system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is specified in the BS-BU *Properties Edit* dialog box.
Authorized Managers List	
IP Address	The IP address of the authorized management station.
Trap Transmission	Whether or not the BS-BU transmits Traps to the management station: **Enable** or **Disable**.
Set Operation	Whether the management station is permitted to perform Set operations on the BS-BU (meaning, change the parameters stored in the BS-BU): **Enable** or **Disable**.
Community	The community string (up to 16 letters) included in Traps sent by the BS-BU.

From the *Authorized Managers dialog* box, you can add, edit and delete authorized management stations.

Notes

Each BS-BU can support up to ten IP addresses (each Address is a Manager). Each BS-BU can support up to ten Authorized Managers. Only Authorized Managers are permitted to add, edit or delete other Authorized Managers. The first Authorized Manager must therefore be specified using the LCI. Refer to the *Base Station Management Guide* for details.

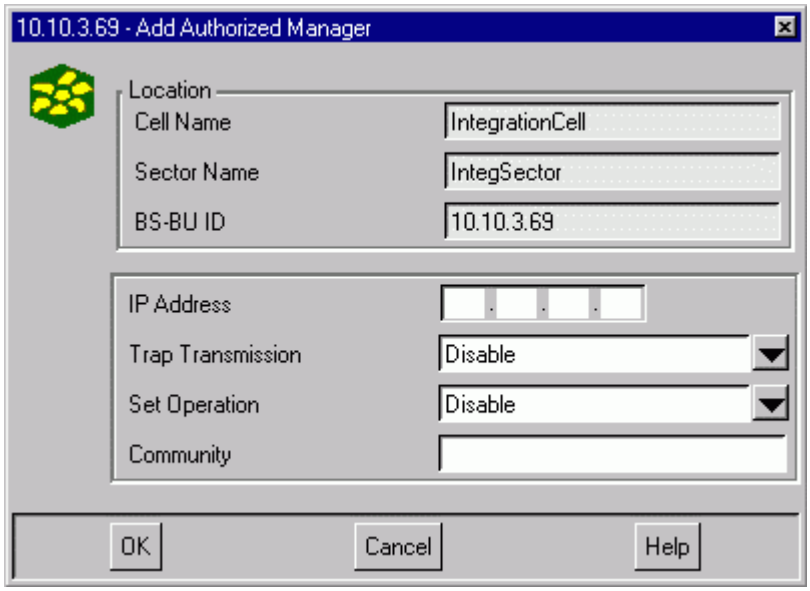
Adding Authorized Managers

Only Authorized Managers are permitted to add, edit or delete other Authorized Managers. The first Authorized Manager must therefore be specified using the LCI. Refer to the *Base Station Management Guide* for details.

To add Authorized Managers:

1 In the *Authorized Managers* dialog box, select **Add** from the *Manager* menu. The *Add Authorized Manager* dialog box is displayed as shown below:

Figure 10-2: Add Authorized Manager Dialog Box



2 Specify the IP address of the authorized management station in the **IP Address** field.

3 Select **Enable** or **Disable** in the Trap Transmission field to specify whether the BS-BU transmits Traps to the management station specified in Step 2.

4 Select **Enable** or **Disable** in the **Set Operation** field to specify whether the management station, specified in Step 2, is permitted to perform Set operations on the BS-BU (meaning, change the parameters stored in the BS-BU).

5 Specify the community string (up to 16 letters) included in Traps sent by the BS-BU in the **Community** field.

6 Click **OK**.

Modifying Authorized Managers

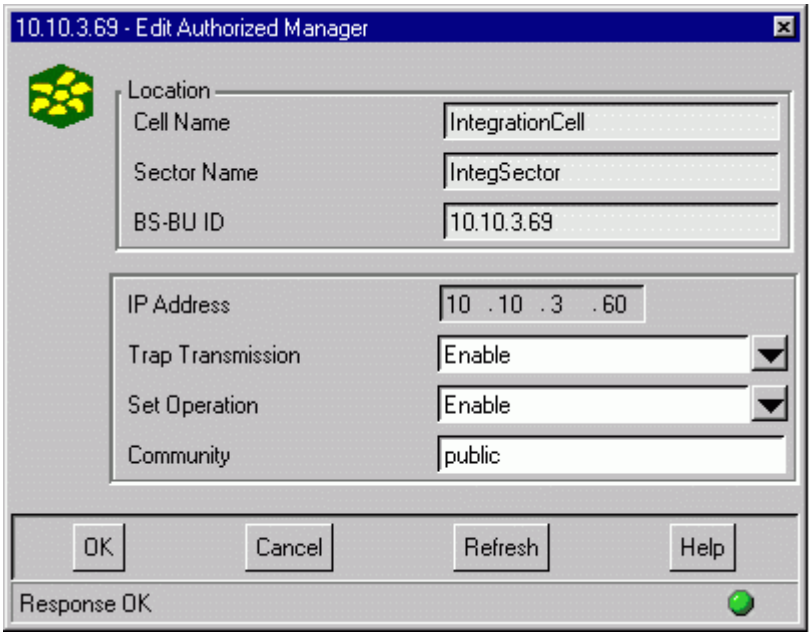
The parameters for an Authorized Manager can be modified.

To modify Authorized Managers:

1 In the *Authorized Managers* dialog box, select an Authorized Manager.

2 From the *Manager* menu, select **Edit**. The *Edit Authorized Manager* dialog box is displayed as shown below:

Figure 10-3: Edit Authorized Manager Dialog Box



3 Modify the values in the **Trap Transmission**, **Set Operation** and **Community** fields, as required.

4 Click **OK**.

Deleting Authorized Managers

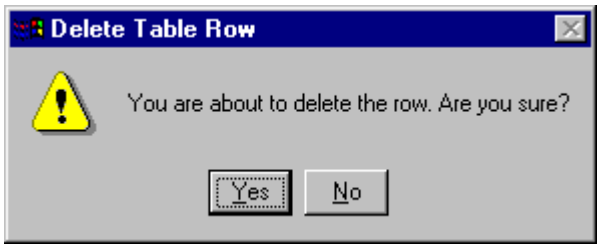
Authorized Managers can be deleted from WALKnet.

To add Authorized Managers:

1 In the *Authorized Managers* dialog box, select an Authorized Manager.

2 From the *Manager* menu, select *Delete*. The Delete Confirmation message is displayed as shown below:

Figure 10-4: Delete Confirmation Message



3 Click **Yes**. The Authorized Manager is deleted.

Software Download

WALKnet provides a software download feature that enables you to download software to several devices simultaneously at a predefined time. Software can also be downloaded to a single device. In WALKair 1000, system software can be downloaded to BS-BUs and TS-BUs. In addition, the National Protocol File used for QPOTS can also be downloaded to BS-BUs in WALKair 1000.

In WALKair 3000, software can be downloaded to MPUs, BS-BUs, TS-BUs, NIUs and IF-MUXs. Before starting the download procedure, ensure that the TFTP server is operational and able to load the required files.

Notes

WALKnet provides a TFTP Server application for users without a TFTP Server. The TFTP application is only available for NT versions. UNIX does not require a TFTP application. The TFTP server is included in the Solaris OS.

Multiple BS-BU Download

You can download software to multiple devices at the same time. Software can be downloaded to selected BS-BUs, selected TS-BUs, Frame Relay telecom cards on selected BS-BUs and TS-BUs, and Ethernet/QBRI/QPOTS telecom cards on selected TS-BUs. Additionally, in WALKair 3000, software can be downloaded to selected MPUs, ATM-NIUs and IF-MUXs. The software is downloaded as a single file for each device, in S3 format, using the TFTP protocol. The WALKair system is the TFTP client and the software update file is located on a TFTP server host.

Notes

The TFTP server may be on the same station as WALKnet, or any other host.

If you want to download a National protocol to multiple BS-BUs, see “National Protocol System Variable Definition” on page 10-8.

Notes

For download to a single BS-BU, this procedure is not required. See “Single Device Download” on page 10-16.

For all other downloads to multiple devices, see "Downloading to Multiple Devices" on page 10-9.

National Protocol System Variable Definition

To define a system variable for the National Protocol:

1 On your PC, Select **Settings**, then **Control Panel**.

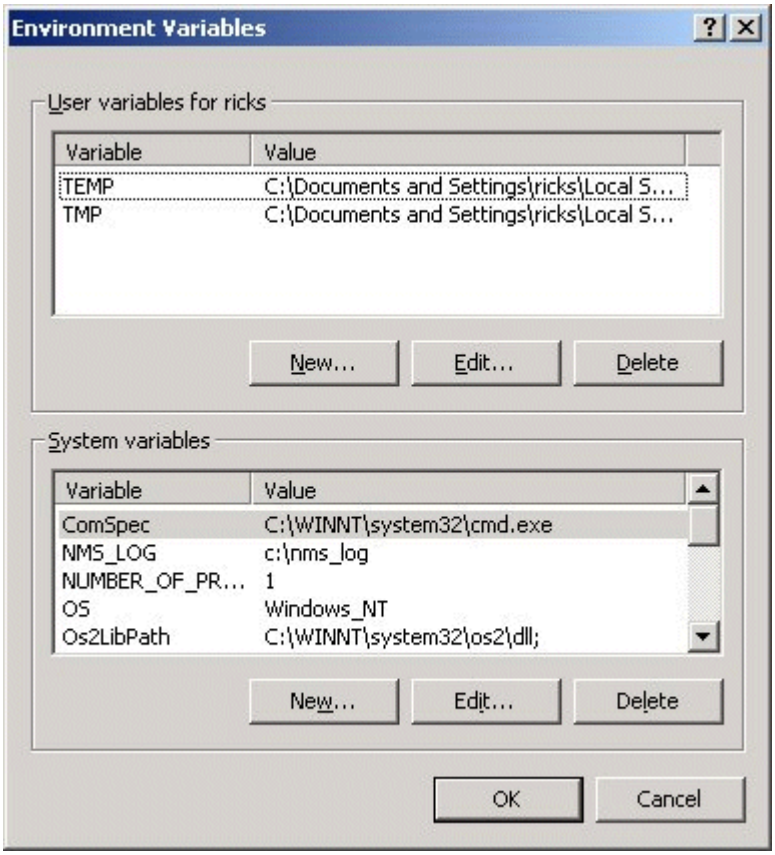
2 In the *Control Panel*, double-click on the **System** icon.

3 In the *System Properties* Window, select the **Advanced** tab.

4 Click the **Environmental Variables** button.

The *Environmental Variables* Dialog Box is displayed.

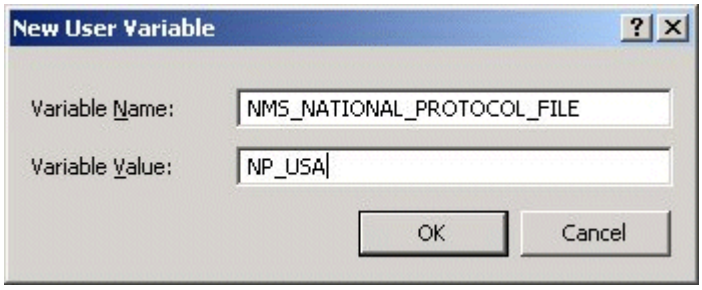
Figure 10-5: Environmental Variables Dialog Box



5 In the User variables area (top area of dialog box), click **New**.

6 In the *New User Variable* dialog box displayed as below, type the following variable name in the Variable Name area: **NMS_NATIONAL_PROTOCOL_FILE**.

Figure 10-6: New User Variable Dialog Box



In the *Variable Value* area, type in the name of the file that includes the National Protocol parameters.

7 Click **OK**.

The new National Protocol variable is displayed in the top area of the *Environmental Variables* dialog box.

8 On your PC, create a new local folder for the National Protocol file. You can call it, for example, *NatProtocol*. Copy the National Protocol File (supplied by Alvarion) to the folder. You can easily identify the National Protocol File. It starts with “np”.

9 Restart your PC.

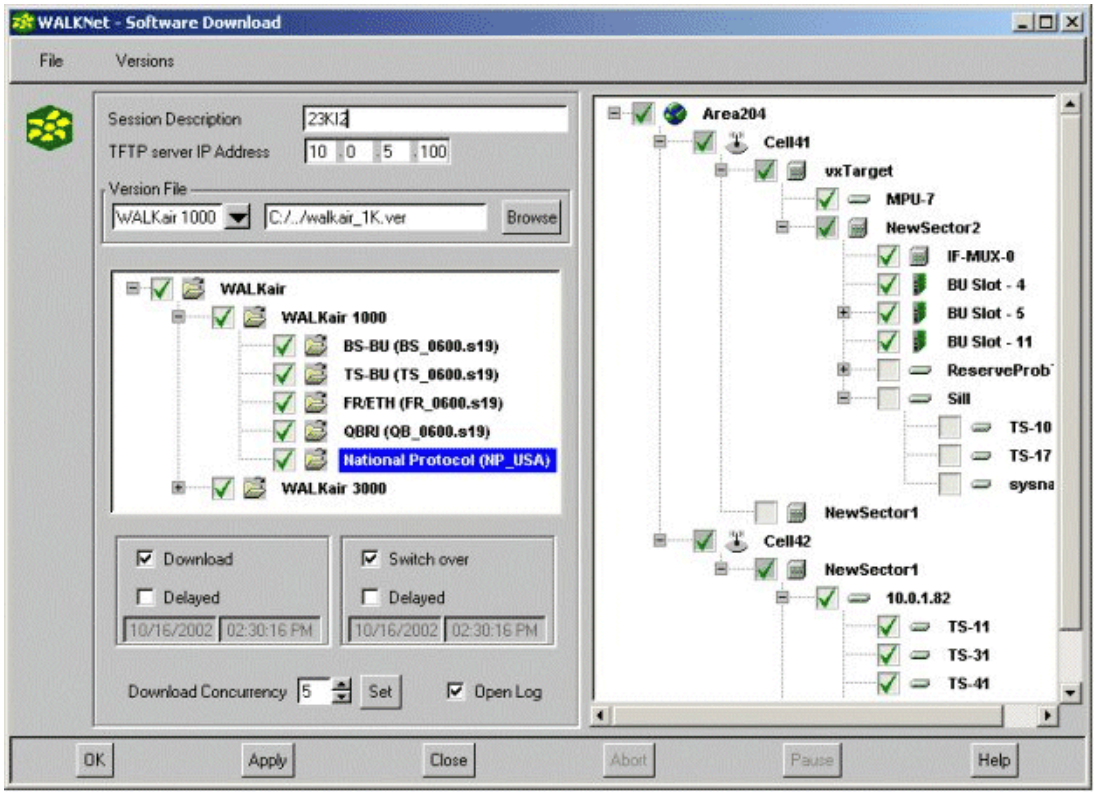
10 You can now download the National Protocol File to a WALKair 1000 BS-BU that communicates with a POTS interface. Proceed to Downloading to Multiple Devices.

Downloading to Multiple Devices

To download software to multiple devices:

1 In the Main window, select **Software Download** from the *Utilities* menu, and then select **Software Download**. The *Software Download* dialog box is displayed as shown below (if a session is in progress).

Figure 10-7: Software Download Dialog Box



Notes

If a session is in progress, the *Software Download* dialog box displays the parameters defined for the last software download session.If the fields in the dialog box are inactive (grayed), you must start a new session (see step 2 below).

2 From the *File* menu, select **New Session**. This button is only enabled if there is no session in progress. A new session is activated and the fields in the dialog box become enabled.

3 In the **Session Description** field, enter a description for the session.

4 In the **TFTP Server IP Address** field, enter the IP address of the TFTP server.

5 You can download either a WALKair software version or a National Protocol File.

WALKair software version download:

◇ In the *Version File* area, select **WALKair 1000** or **WALKair 3000** (for a WALKair 3000 Shelf), or **WALKair SA** (for a WALKair 3000 Stand-Alone BS-BU) from the dropdown list and enter the full path of the version file, or browse to the required version file. The version file contains the names of the files to be downloaded to the different components, as well as relevant compatibility rules.

National Protocol download (WALKair 1000 BS-BU only):

◇ The National Protocol filename appears in the WALKair component tree. The file is taken from the previously defined environmental variable (see "National Protocol System Variable Definition" on page 10-8).

6 In the Component Selection tree (on the left side of the *Software Download* dialog box), select the components to which you want to download software.

Notes

If the selected version file contains a software download file for a component, the name of the file is displayed in parentheses after the component, for example, QBRI (QBRI_104.s19). If the selected version file does not include a file for a component, only the component name is displayed.

7 In the Device Selection tree, (on the right side of the *Software Download* dialog box), select the specific devices to which you want to download software. All the devices, for example, Shelves, BS-BUs and TS-BUs, configured in the current map are displayed in the Device Selection tree.

Notes

Selecting an element in the hierarchy automatically selects all the elements below it in the hierarchy. For example, when you select the cell, all the devices in the cell are selected automatically. You can then deselect as required.

If you select a device and you have not selected the software component for the device in the Component Selection tree, a warning is displayed.

When you select a BS-BU in the Device Selection tree, you cannot deselect all the associated TS-BUs. To download software to a BS-BU only, leave the TS-BUs selected in the Device Selection tree but do not select the TS-BU component in the Component Selection tree.

You can only download a National Protocol File to a WALKair 1000 BS-BU.

8 Below the Component Selection tree, select one or both of the actions from the following:

- ◇ **Download**: To download the selected software component to the selected devices. The download operation tells the device to copy the file with the software from the specified TFTP server to the standby area of a corresponding component.
- ◇ **Switch over**: To switch between the current and standby software versions on the selected devices. The switchover process automatically resets the selected devices. The switchover operation exchanges the active and standby areas and initiates the reset of a corresponding component.

Notes

If you select both Download and Switch over, the switchover process is performed after the download process.

9 If required, delay the start of the download and switchover processes by selecting the **Delayed** checkbox and specifying the start time in the date and time fields.

10 In the **Download Concurrency** field, select the number of devices in different cells, which will receive the software download request simultaneously, and click **Set**.

Notes

Set the Download Concurrency low enough to avoid overloading the system.

11 If required, select the **Open Log** checkbox to automatically display the log file after the download process begins.

12 Click **Apply**. The download process begins. During the download process, the color of the selected devices reflects their status in the download process, as follows:

- ◇ Yellow: Download in progress.
- ◇ Green: Download successfully completed.
- ◇ Red: Download failed.
- ◇ No color: Download not started.

At any time during the download process, you can click **Abort** to abort the process or **Pause** to temporarily stop the process. During a pause in the download process, you can select/deselect devices in the Device Selection tree that are uncolored. Click **Resume** to restart the download process.

Notes

The **Pause** button toggles between **Pause** and **Resume** enabling you to pause and restart the session at any time.

Displaying the Software Download Log

WALKnet tracks software download sessions and keeps the results in log files. Log files are named **SDL(date)(time).log** and placed in the directory defined by the **NMS_LOG** environment variable, sub-directory **SDL**.

Notes

For information about how to define the **NMS_LOG** Environment Variable, see "Defining the Environmental Variable for Log Files" on page 1-16.

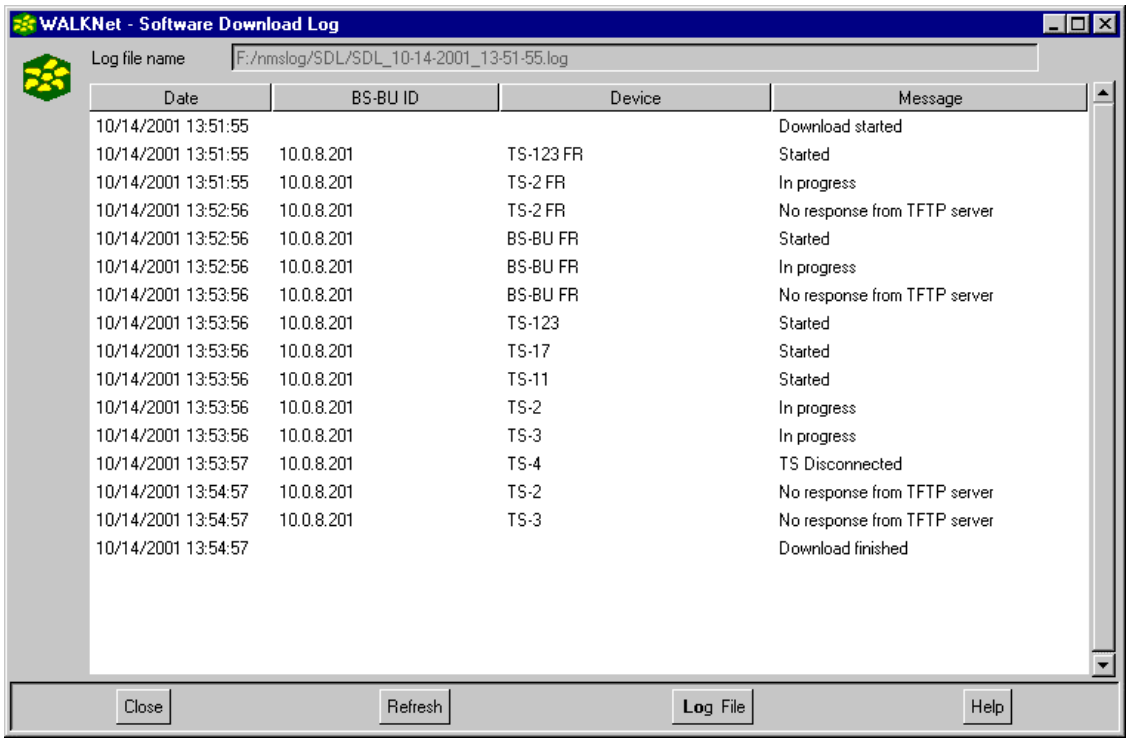
To display the software download log:

Access the Software Download Log dialog box in one of the following ways:

- In the *Software Download* dialog box, select **Open Log** from the *File* menu.
- In the Main window, select **Software Download** from the *Utilities* menu, and then select **Software Download Log**.

The *Software Download Log* dialog box is displayed showing information for the current or last software download session.

Figure 10-8: Software Download Log


WALKNet - Software Download Log
Log file name
F:/nmslog/SDL/SDL_10-14-2001_13-51-55.log
Date
BS-BU ID
Device
Message
10/14/2001 13:51:55 Download started
10/14/2001 13:51:55 10.0.8.201 TS-123 FR Started
10/14/2001 13:51:55 10.0.8.201 TS-2 FR In progress
10/14/2001 13:52:56 10.0.8.201 TS-2 FR No response from TFTP server
10/14/2001 13:52:56 10.0.8.201 BS-BU FR Started
10/14/2001 13:52:56 10.0.8.201 BS-BU FR In progress
10/14/2001 13:53:56 10.0.8.201 BS-BU FR No response from TFTP server
10/14/2001 13:53:56 10.0.8.201 TS-123 Started
10/14/2001 13:53:56 10.0.8.201 TS-17 Started
10/14/2001 13:53:56 10.0.8.201 TS-11 Started
10/14/2001 13:53:56 10.0.8.201 TS-2 In progress
10/14/2001 13:53:56 10.0.8.201 TS-3 In progress
10/14/2001 13:53:57 10.0.8.201 TS-4 TS Disconnected
10/14/2001 13:54:57 10.0.8.201 TS-2 No response from TFTP server
10/14/2001 13:54:57 10.0.8.201 TS-3 No response from TFTP server
10/14/2001 13:54:57 Download finished
Close
Refresh
Log File
Help

Information about the current or last download session is displayed in the following fields:

Date — The date and time of the action (described in the **Message** field).

BS-BU ID — The system name if defined for the BS-BU or shelf. When no system name is defined, the IP address of the BS-BU or Shelf.

Device — The component within a BS-BU or Shelf.

Message — Information about the status of the download process on the device.

Notes

Sort the list by clicking on the column headers.

You can click **Refresh** to update the display or click **Log File** to select another previously generated log file.

Displaying the Versions Report

The Versions report enables you to view the current and backup versions currently installed on a selected device.

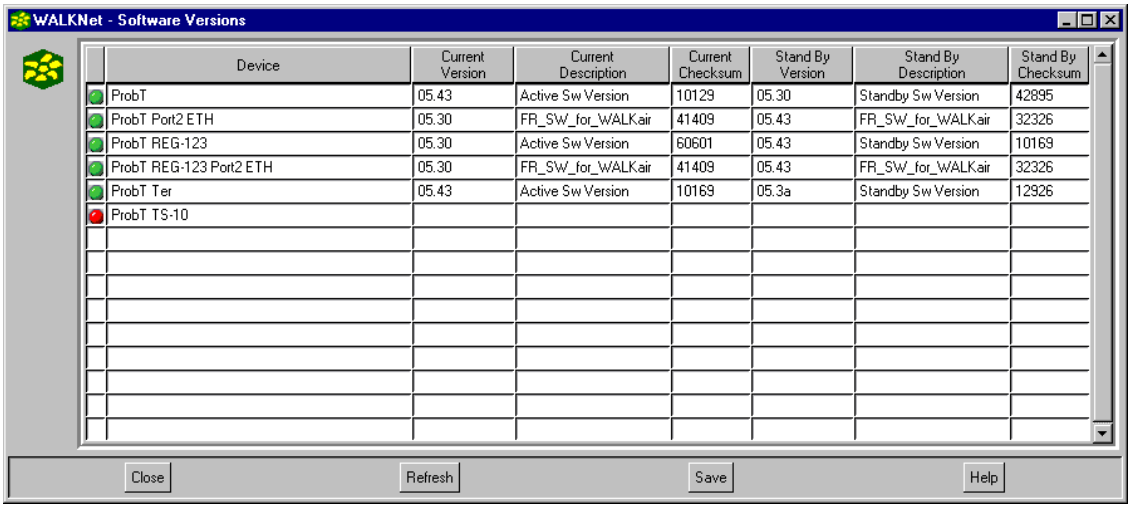
To display a Versions report:

1 In the *Component Selection* tree, select the components for which you want to view version information.

2 In the *Device Selection* tree, select the specific devices for which you want to view version information.

3 From the *Versions* menu, select **Versions**. The Versions report is displayed as shown below:

Figure 10-9: Versions Report


WALKNet - Software Versions
Device
Current Version
Current Description
Current Checksum
Stand By Version
Stand By Description
Stand By Checksum
ProbT 05.43 Active Sw Version 10129 05.30 Standby Sw Version 42895
ProbT Port2 ETH 05.30 FR_SW_for_WALKair 41409 05.43 FR_SW_for_WALKair 32326
ProbT REG-123 05.30 Active Sw Version 60601 05.43 Standby Sw Version 10169
ProbT REG-123 Port2 ETH 05.30 FR_SW_for_WALKair 41409 05.43 FR_SW_for_WALKair 32326
ProbT Ter 05.43 Active Sw Version 10169 05.3a Standby Sw Version 12926
ProbT TS-10
Close
Refresh
Save
Help

Information about the software versions installed on the selected device is displayed in the following fields:

Device	The type of device.
Current Version	The current version.
Current Description	The description of the current version.
Current Checksum	The CRC of the current version.
Standby Version	The current standby version.
Standby Description	The description of the current standby version.
Standby Checksum	The CRC of the current standby version.

Notes

The LED to the left of the device name indicates the communication status with the device. When communication fails, only the LED and **Device** information are displayed.

You can click **Refresh** to update the display or click **Save** to save the versions report. Versions reports are saved in files named **VER(date)(time).log** and placed in the directory defined by the NMS_LOG environment variable, sub-directory INVENTORY.

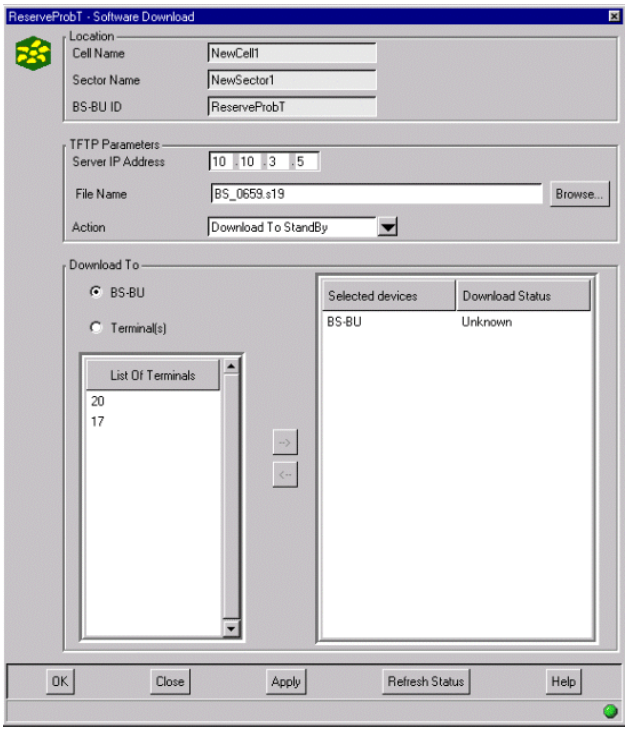
Single Device Download

You can download software to an individual WALKair 1000 BS-BU or TS-BU.

To download software to a single device:

1 In Base Station BU View, select **Software Download** from the *BS-BU* menu. The *Software Download* dialog box is displayed as shown below:

Figure 10-10: Software Download Dialog Box



2 Enter the IP address of the TFTP server in the **Server IP Address** field.

3 Enter the name of the file to download in the **File Name** field, or locate the file using the **Browse** button. The file name must include the full path from where the TFTP server is defined.

Notes

When you are downloading software to a Frame Relay, Ethernet, QBRI or POTS card, the file name should start with FR, Eth or QBRI or POTS, respectively.

The software is downloaded to all the cards of the same type.

A National Protocol File can only be downloaded to a BS-BU. When you are downloading a National Protocol File, the file name starts with np..

4 Select the action to perform on the file from the dropdown list in the **Action** field, as follows:

- ◇ Download To StandBy: Downloads the file to selected devices.
- ◇ Abort Download: Aborts the download in process.
- ◇ None: Performs no action.

5 Select the device to which you want to download the file in the **Download To** area. When you select BS-BU, the name of the BS-BU is displayed in the **Selected devices** field. When you select **Terminal(s)**, select the specific TS-BU from the **List Of Terminals**, and click . The selected TS-BU is displayed in the Selected devices field.

Notes

The **List Of Terminals** displays the TS-BUs registered to the current BS-BU.A National Protocol File can only be downloaded to a BS-BU. When an air link is established between a BS-BU (after download) and its associated TS-BUs, the National Protocol is copied to the TS-BUs..

6 Click **Apply**. The selected file is downloaded to the selected BS-BU or TS-BU. The status of the download process is displayed in the **Download Status** field.

Configuration Upload and Download

WALKair 1000 Configuration Upload and Download

A WALKair 1000 BS-BU stores the configuration for itself and all its registered TS-BUs in non-volatile memory. The configuration can be uploaded from the BS-BU and saved in the WALKnet database, and downloaded from the WALKnet database to any BS-BU. This enables backup of your WALKair 1000 system configuration and can also speed up the configuration process, or be used for BS-BU replacement.

Uploading and downloading BS-BU configurations are performed from the *Configuration Load* dialog box.

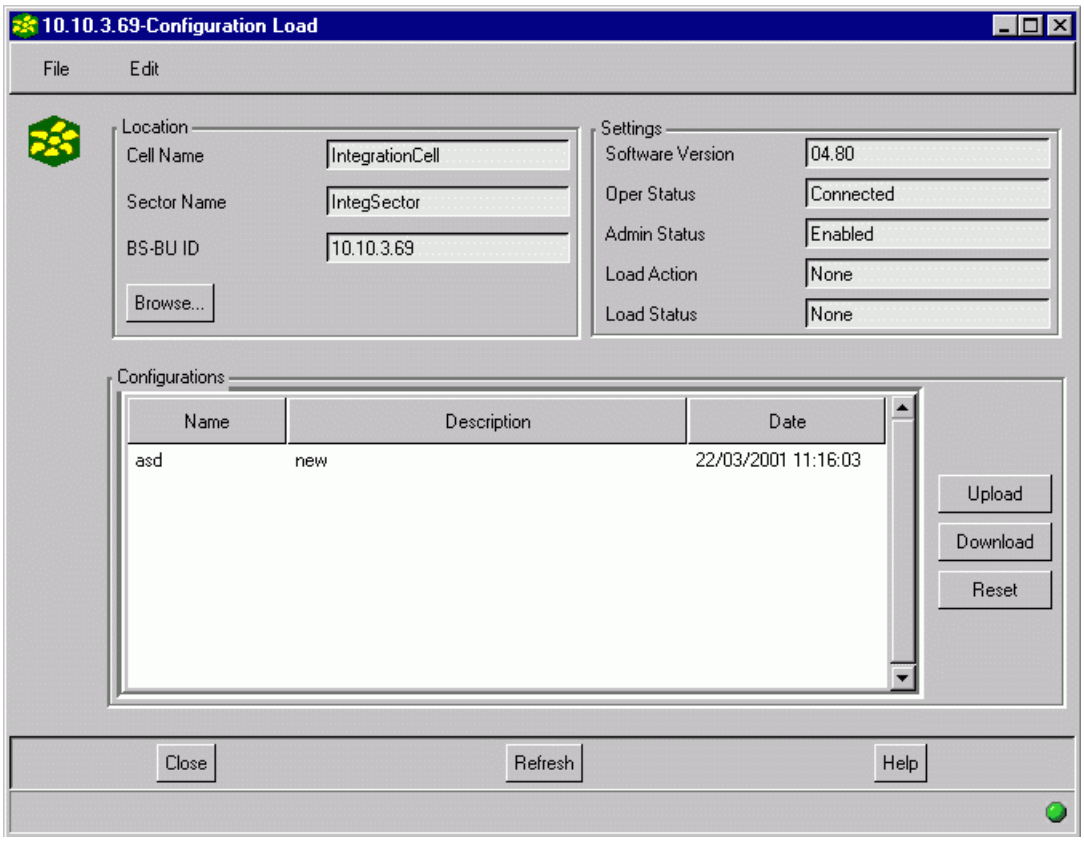
To access the Configuration Load dialog box:

Access the Configuration Load dialog box in one of the following ways:

- In Base Station BU View, select **Configuration Load** from the *BS-BU* menu.
- In the Main window, select **Configuration Load** from the *Utilities* menu. Browse to the required BS-BU in the *Browse BS-BU* dialog box, and click **OK**.

The *Configuration Load* dialog box is displayed as shown below:

Figure 10-11: Configuration Load Dialog Box



The read-only parameters displayed in the Configuration Load dialog box are as follows:

Location area	
Cell Name	The name of the cell for which this BS-BU has been defined.
Sector Name	The name of the sector for which this BS-BU has been defined.
BS-BU ID	The system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is specified in the BS-BU *Properties Edit* dialog box.
Settings area	
Software Version	The software version of the BS-BU.
Oper Status	The operational status of the BS-BU: **Connected** or **Disconnected**.

Admin Status	The administrative status of the BS-BU: **Enabled** or **Disabled**.
Load Action	The load action currently being performed or, when no load action is in progress, the load action last performed: **Upload** or **Download**.
Load Status	The status of the load action currently being performed: **None**, **In Progress**, **Successful**, **Aborted**, **S/W Version err**, **File CRC err**, **File Format err**, **File Corrupted (NOT IN USE)** or **General error**.
Configurations area	
Name	The name of the configuration file.
Description	An optional description of the configuration file.
Date	The date the configuration file was saved. When no date is displayed, the configuration file is empty.

Creating Configuration Files

To upload the configuration from a BS-BU to the WALKnet database, you must either have an existing configuration file in the WALKnet database, or you must create a new configuration file. When you create a new configuration file, it is an empty file, meaning it is a shell with a name and a description into which data can be uploaded. You can also upload data to existing full configuration files, meaning files that already include data. In this case, the data is overwritten.

You can add any number of empty configuration files to the WALKnet database, and delete or modify configuration files.

Adding Configuration Files

When creating a new configuration file, you add an empty file to the WALKnet database. Data can then be saved to this file during the upload process.

To add configuration files:

1 In the *Configuration Load* dialog box, select **New** from the *File* menu. The *Add Configuration File* dialog box is displayed as shown below:

Figure 10-12: Add Configuration File Dialog Box

2 Enter a unique name for the configuration file in the ☝ field.

3 Enter a description for the configuration file, if required, in the **Description** field.

4 Click **OK**. The new configuration file is displayed in the list of configuration files in the *Configuration Load* dialog box. No date is displayed in the **Date** field because the file is empty.

Modifying Configuration Files

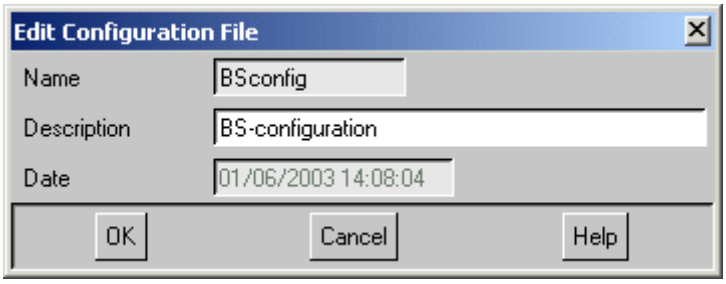
The description for a configuration file can be modified.

To modify configuration files:

1 In the *Configuration Load* dialog box, select a configuration file.

2 From the *Edit* menu, select **Edit**. The **Edit Configuration File** dialog box is displayed as shown below:

Figure 10-13: Edit Configuration File Dialog Box



3 Modify the description for the configuration file in the **Description field** and click **OK**.

Deleting Configuration Files

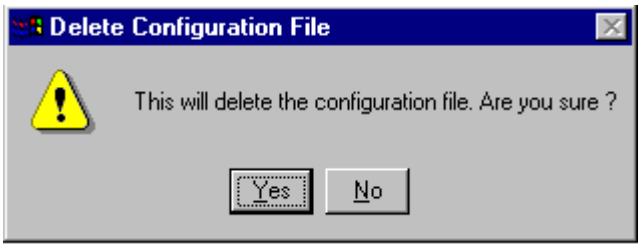
Configuration files can be deleted from the WALKnet database.

To delete configuration files:

1 In the *Configuration Load* dialog box, select a configuration file.

2 From the ***Edit*** menu, select **Delete**. The Delete Confirmation message is displayed as shown below:

Figure 10-14: Delete Configuration File Message



3 Click **OK**. The Configuration file is deleted.

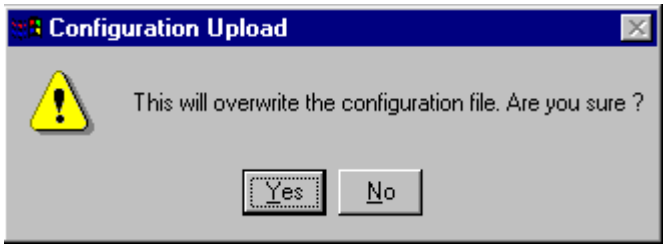
Loading Configuration

You can upload BS-BU configurations either to empty configuration files in the WALKnet database, or to full configuration files, in which case the existing data is overwritten with the new data. You can only download full configuration files to BS-BUs.

To upload configuration files:

1 In the *Configuration Load* dialog box, select a configuration file and click **Upload**. When the selected file is empty, the upload process begins immediately. When the selected configuration file already contains data, the Configuration Upload Warning is displayed as shown below:

Figure 10-15: Configuration Upload Warning



2 Click **OK** to upload the configuration of the current BS-BU to the selected file.

While the upload process is in progress, the **Load Status** field displays **In Progress**. When the upload process is completed, the **Load Status** field displays **Successful**, and the selected file receives a date stamp in the **Date** field.

To download configuration files:

In the *Configuration Load* dialog box, select a full configuration file and click **Download**. The configuration in the selected file is downloaded to the current BS-BU.

Notes

If the selected configuration file is empty, an error message is displayed..

When the download process is completed, the **Load Status** field displays **Successful**. The configuration download process is about three or four minutes long.

If the BS-BU cannot perform the download process, the **Load Status** field displays **General Error**. You should try again, a short time later.

The download process can also be rejected by the BS-BU if it finds a problem with the file. In this case, the **Load Status** field indicates the problem.

WALKair 3000 Shelf Configuration Upload and Download

See Chapter 5, “Shelf Management”.

WALKair 3000 Stand-Alone BS-BU Configuration Upload and Download

A WALKair 3000 Stand-Alone BS-BU stores the configuration for itself and all its registered TS-BUs in non-volatile memory. The configuration can be uploaded from the BS-BU and saved in the WALKnet database, and downloaded from the WALKnet database to any other BS-BU. This enables backup of your WALKair 3000 system configuration and can also speed up the configuration process, or be used for BS-BU replacement.

Uploading and downloading BS-BU configurations are performed from the *Configuration Load* dialog box.

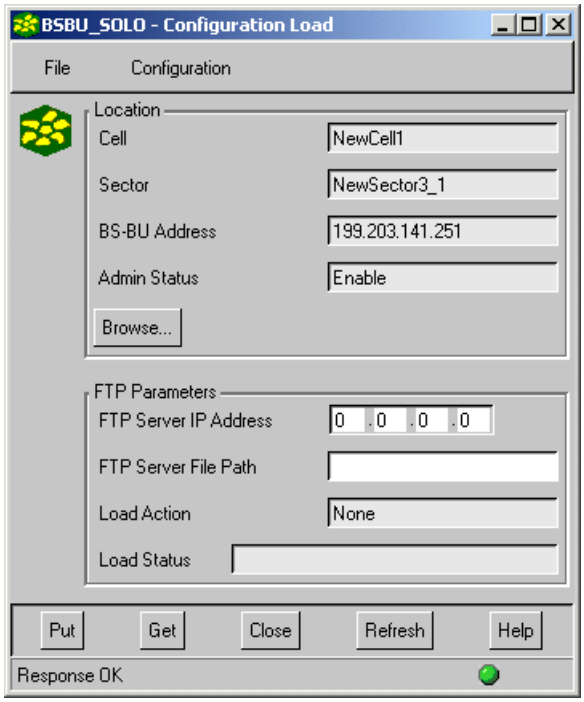
To access the Configuration Load dialog box:

1 Access the *Configuration Load* dialog box in one of the following ways:

- ◇ In Base Station BU View, select **Configuration Load** from the *BS-BU* menu.
- ◇ In the Main window, select **Configuration Load** from the *Utilities* menu. Select W3000 BS0-BU/SA and browse to the required BS-BU in the *Browse BS-BU* dialog box, and then click **OK**.

The *Configuration Load* dialog box is displayed as shown below.

Figure 10-16: Configuration Load Dialog Box – W3000 Stand-Alone BS-BU



2 If you want to navigate to a different BS-BU, click **Browse** and select the appropriate BS-BU.

3 In the FTP Parameters area, enter the **Server IP Address** and the **FTP Server File Path**.

4 To upload to the server, click the **Put** button or select **Put** from the Configuration menu.

–Or-

To download from the server to the BS-BU, click the **Get** button or select **Get** from the *Configuration* menu.

Versions and Reset Management

WALKnet enables you to view the resident software versions located in the various components of the WALKair 1000 and WALKair 3000 systems. You can switch between current and standby software versions at any time.

WALKair 1000 Software Versions

WALKnet enables you to view the resident software versions located in BS-BUs and TS-BUs, and the telecom cards located in them.

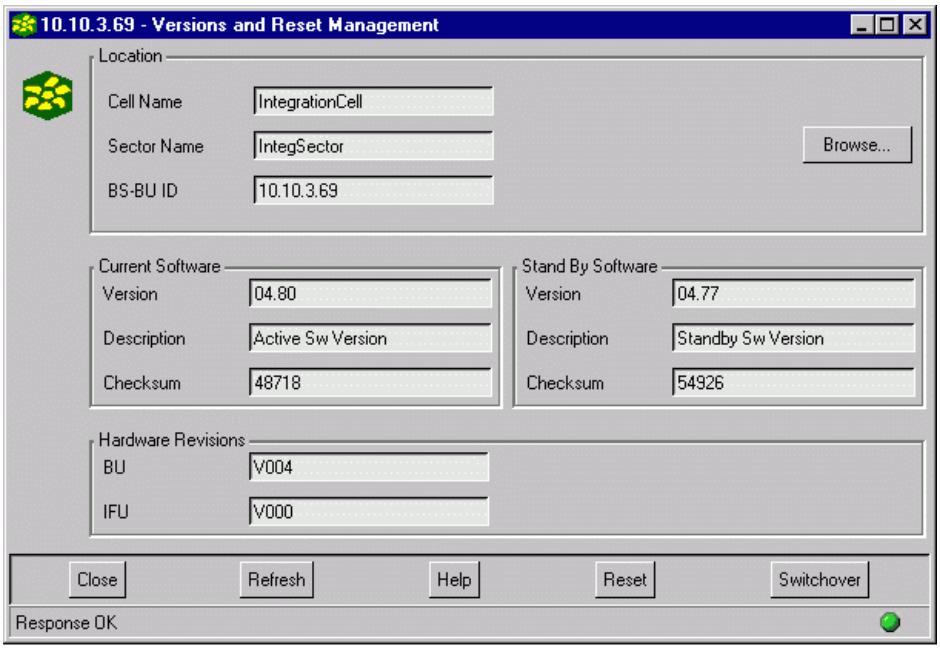
To view software versions on a BS-BU:

Open the *Versions and Reset Management* dialog box in one of the following ways:

- In Base Station BU View, select **Versions** from the ***BS-BU*** menu.
- In the Main window, select **Versions** from the *Utilities* menu, or click **Versions** in the toolbar. Browse to the required BS-BU in the *Browse BS-BU* dialog box, and click **OK**.

The *Versions and Reset Management* dialog box is displayed as shown below:

Figure 10-17: Versions and Reset Management Dialog Box

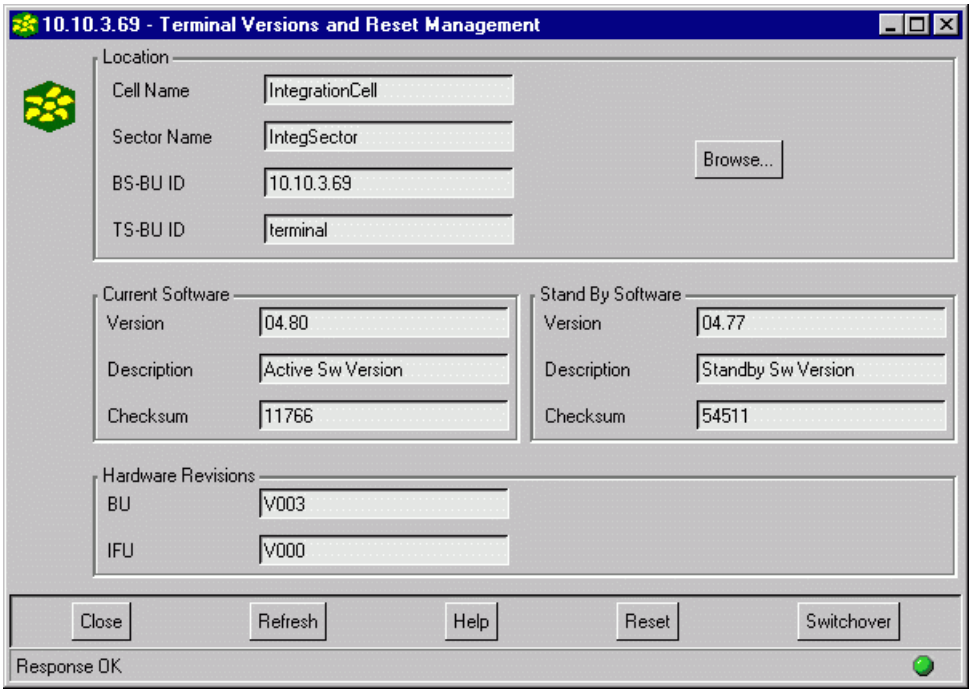


The parameters in the Versions and Reset Management dialog box are described below.

To view software versions on a TS-BU:

In Terminal Station BU View, select **Versions** from the *Terminal* menu. The *Terminal Versions and Reset Management* dialog box is displayed as shown below:

Figure 10-18: Terminal Versions and Reset Management Dialog Box



To switch between current and backup software versions:

The read-only parameters displayed in the *Versions and Reset Management* dialog box and *Terminal Versions and Reset Management* dialog box are as follows:

:

Location area	
Cell Name	The name of the cell for which the BS-BU/TS-BU has been defined.
Sector Name	The name of the sector for which the BS-BU/TS-BU has been defined.
BS-BU ID	The system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is defined in the *BS-BU Properties Edit* dialog box.
TS-BU ID	The system name if defined for the TS-BU or, when no system name is defined, the customer ID of the TS-BU. The system name is defined in the *Terminal Station BU Properties* Edit dialog box. This field appears in the *Terminal Versions and Reset Management* dialog box only.
Current Software area	
Version	The current version.
Description	The description of the current version.
Checksum	The CRC of the current version.
Stand By Software area	
Version	The current standby version.
Description	The description of the current standby version.
Checksum	The CRC of the current standby version.
Hardware Revisions area	
BU	The BS-BU hardware version.
IFU	The IFU hardware version.

In the *Versions and Reset Management* dialog box or the *Terminal Versions and Reset Management* dialog box, click **Switchover**. WALKnet switches between the current and standby software versions and automatically resets the BS-BU or TS-BU.

Notes

You can reset the BS-BU or TS-BU at any time by clicking Reset. However, do NOT click the Reset button until you are certain that a software switchover has been completed..

Telecom Card Software Versions

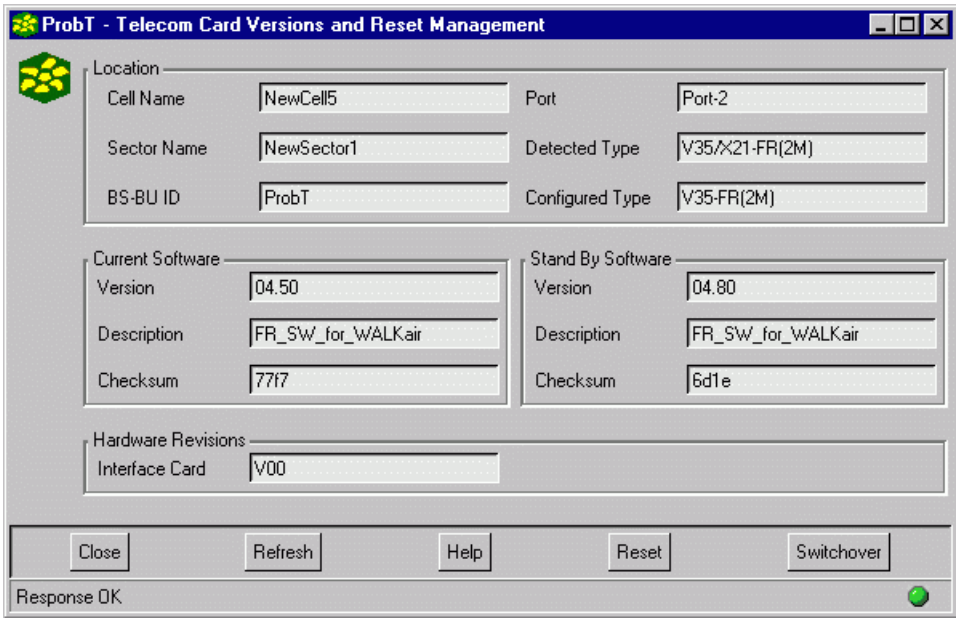
WALKnet enables you to view the resident FR, Ethernet and QBRI software versions located in the BS-BUs and TS-BUs. You can switch between current and standby software versions at any time.

To view software versions on a telecom card:

1 In Base Station BU View or Terminal Station BU View, select an FR, Ethernet, QBRI or QPOTS port.

2 From the **Port** menu, select *Versions*. The *Telecom Card Versions and Reset Management* dialog box is displayed as shown below:

Figure 10-19: Telecom Card Versions and Reset Management Dialog Box



To switch between current and backup software versions:

The read-only parameters displayed in *the Telecom Card Versions and Reset Management* dialog box are as follows:

Location area	
Cell Name	The name of the cell for which the BS-BU/TS-BU has been defined.
Sector Name	The name of the sector for which the BS-BU/TS-BU has been defined.
BS-BU ID	The system name if defined for the BS-BU or, when no system name is defined, the IP address of the BS-BU. The system name is defined in the *BS-BU Properties Edit* dialog box.
TS-BU ID	The system name if defined for the TS-BU or, when no system name is defined, the customer ID of the TS-BU. The system name is defined in the *Terminal Station BU Properties* Edit dialog box. This field only appears when the *Telecom Card Versions and Reset Management* dialog box is accessed from Terminal Station BU View.
Current Software area	
Version	The current version.
Description	The description of the current version.
Checksum	The CRC of the current version.
Stand By Software area	
Version	The current standby version.
Description	The description of the current standby version.
Checksum	The CRC of the current standby version.
Hardware Revisions area	
Interface Card	The Telecom card hardware version.

In the *Telecom Card Versions and Reset Management* dialog box, click **Switchover**. WALKnet switches between the current and standby software versions and automatically switches the BS-BU or TS-BU telecom card.

To view software versions on a telecom card:

In the *Telecom Card Versions and Reset Management* dialog box, click **Reset**.

WALKair 3000 Software Versions

WALKnet enables you to view the resident software versions located on a W3000 Shelf's BS-BUs, TS-BUs, MPUs, IF MUXs and ATM-NIUs, and on a W3000 Stand-Alone BS-BU and its TS-BUs.

BS-BU Software Versions

WALKnet enables you to view the resident software versions located in the BS-BUs. You can switch between current and standby software versions at any time.

To view software versions on a telecom card:

Access the *Versions and Reset and Management* dialog box in one of the following ways:

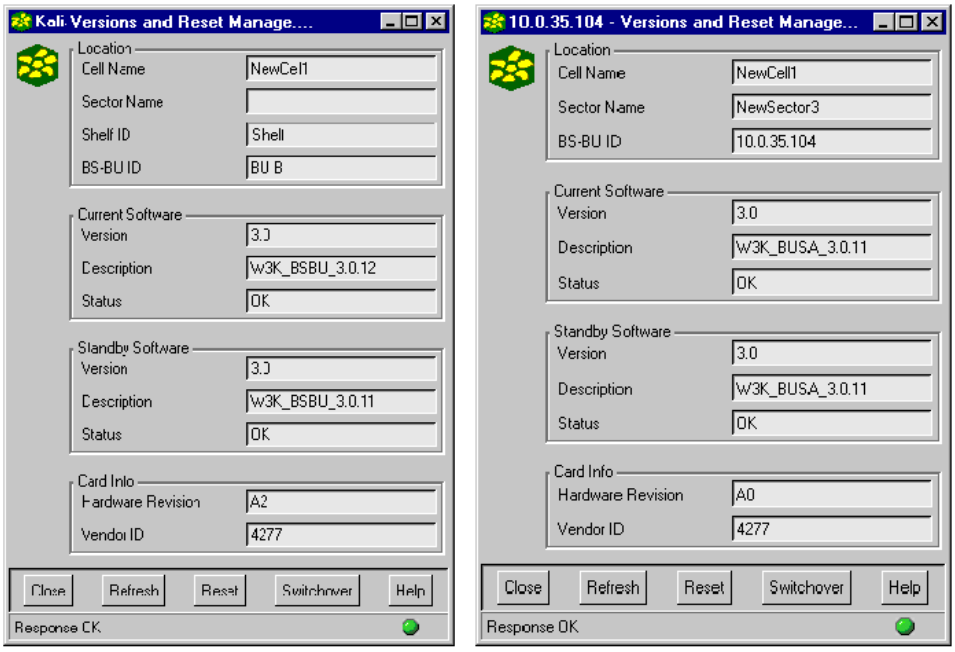
- In BS-BU View, select **Versions** from the *BS-BU* menu.

  -Or-

- In the WALKnet Main Window, select **Versions** from the **Utility** menu. Then select **W3000 Shelf, BS-BU** (for a Shelf) OR **W3000 BS-BU/SA** for a Stand-Alone BS-BU.

The BS-BU Versions and Reset Management dialog box is displayed as shown below for a W3000 Shelf and a W3000 Stand-Alone BS-BU.

Figure 10-20: BS-BU Versions and Reset Management Dialog Box



The read-only parameters displayed in the *BS-BU Versions and Reset Management* dialog box are as follows:

Location area	
Cell Name	The name of the cell for which the BS-BU has been defined.
Sector Name	The name of the sector for which the BS-BU has been defined.
Shelf ID	**Shelf only** - The name of the Shelf for which the BS-BU has been defined. If a Shelf name is not defined, the Shelf's IP address is used as the Shelf ID.
BS-BU ID	The system name if defined for the BS-BU or, when no system name is defined, the carrier index of the BS-BU. The system name is defined in the *BS-BU Properties Edit* dialog box.
Current Software area	
Version	The current version.

Description	The description of the current version.
Stand By Software area	
Version	The current standby version.
Description	The description of the current standby version.
Card Info area	
Vendor ID	The card vendor ID.
HW Revision	The hardware version of a card.

To switch between current and backup software versions:

In the BS-*BU Versions and Reset Management* dialog box, click **Switchover**. WALKnet switches between the current and standby software versions and automatically resets the BS-BU.

Notes

You can reset the BS-BU at any time by clicking **Reset**. However, do **NOT** click the **Reset** button until you are certain that a software switchover has been completed..

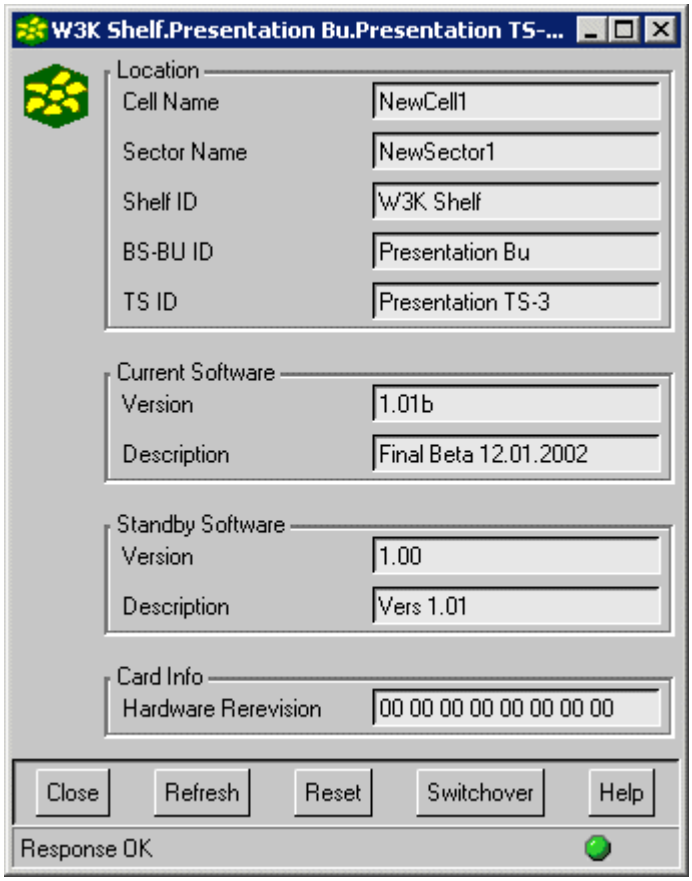
TS-BU Software Versions

WALKnet enables you to view the resident software versions located in the TS-BUs. You can switch between current and standby software versions at any time.

To view software versions on a TS-BU:

In TS View, select **Versions** from the **TS** menu. The *TS Versions and Reset Management* dialog box is displayed as shown below for

Figure 10-21: TS Versions and Reset Management Dialog Box



The read-only parameters displayed in the *TS Versions and Reset Management* dialog box are as follows:

Location area	
Cell Name	The name of the cell for which the TS has been defined.
Sector Name	The name of the sector for which the TS has been defined.
Shelf ID	**Shelf only** - The name of the Shelf for which the TS has been defined. If a Shelf name is not defined, the Shelf's IP address is used as the Shelf ID.
BS-BU ID	The system name if defined for the BS-BU or, when no system name is defined, the carrier index of the BS-BU. The system name is defined in the *BS-BU Properties Edit* dialog box.

TS ID	The TS system name if defined or, when no system name is defined, the customer ID of the TS. The system name is defined in the *TS Properties Edit* dialog box.
Current Software area	
Version	The current version.
Description	The description of the current version.
Stand By Software area	
Version	The current standby version.
Description	The description of the current standby version.
Card Info area	
HW Revision	The hardware version of a card.

To switch between current and backup software versions:

In the *TS Versions and Reset Management* dialog box, click **Switchover**. WALKnet switches between the current and standby software versions and automatically resets the TS-BU.

Notes

You can reset the TS-BU at any time by clicking **Reset**. However, do **NOT** click the **Reset** button until you are certain that a software switchover has been completed..

MPU Software Versions (Shelf only)

WALKnet enables you to view the resident software versions located in the MPUs. You can switch between current and standby software versions at any time.

To view software versions on an MPU:

Access the *Versions and Reset and Management* dialog box in one of the following ways:

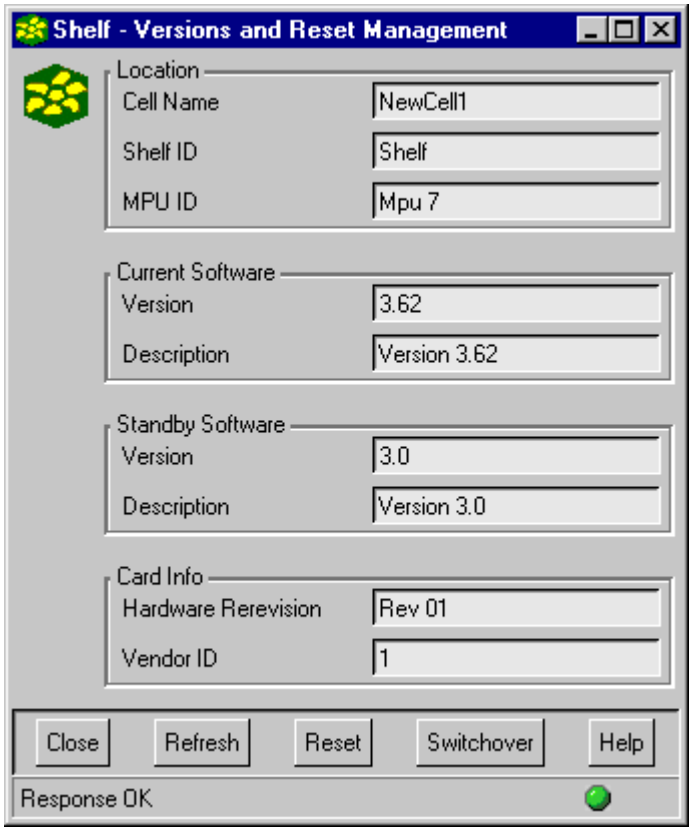
- In MPU View, select **Versions** from the *MPU* menu.

-Or-

■ In the WALKnet Main Window, select **Versions** from the *Utility* menu. Then select **W3000 Components**, **MPU**.

The *MPU Versions and Reset Management* dialog box is displayed as shown below:

Figure 10-22: MPU Versions and Reset Management Dialog Box



The read-only parameters displayed in the *MPU Versions and Reset Management* dialog box are as follows:

Location area	
Cell Name	The name of the cell for which the MPU has been defined.
Sector Name	The name of the sector for which the MPU has been defined.
MPU ID	The system name, if defined, for the MPU or, when no system name is defined, the slot number. The system name is defined in the *MPU Properties Edit* dialog box.
Current Software area	
Version	The active software version.
Description	The description of the active software.
Stand By Software area	
Version	The current standby version.
Description	The description of the current standby version.
Card Info area	
HW Revision	The hardware version of a card.
Vendor ID	The card vendor ID

To switch between current and backup software versions:

In the *MPU Versions and Reset Management* dialog box, click **Switchover**. WALKnet switches between the current and standby software versions and automatically resets the MPU.

IF MUX Software Versions (Shelf only)

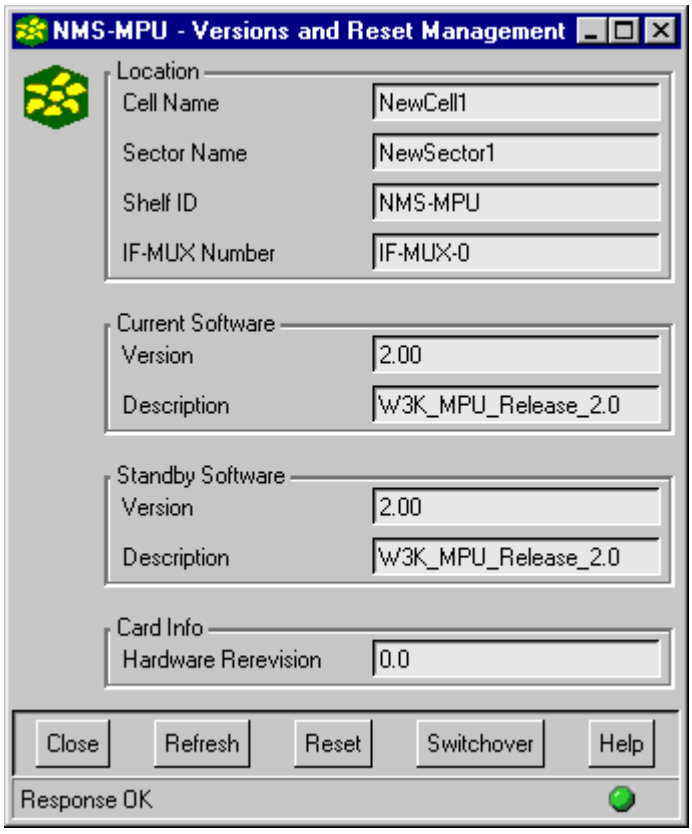
WALKnet enables you to view the resident software versions located in the IF MUXs. You can switch between current and standby software versions at any time.

To view software versions on an IF MUX:

In the WALKnet Main Window, select Versions from the Utility menu. Then select **W3000 Components, IF MUX**.

The *IF MUX Versions and Reset Management* dialog box is displayed as shown below.

Figure 10-23: IF MUX Versions and Reset Management Dialog Box



The read-only parameters displayed in the IF *MUX Versions and Reset Management* dialog box are as follows:

Location area	
Cell Name	The name of the cell for which the IF MUX has been defined.
Sector Name	The name of the Sector for which the IF MUX has been defined.
Shelf ID	The name of the Shelf for which the IF MUX has been defined. If a Shelf name is not defined, the Shelf's IP address is used as the Shelf ID.
IF MUX Number	Number of the IF MUX
Current Software area	
Version	The active software version.
Description	The description of the active software.
Stand By Software area	
Version	The current standby version.
Description	The description of the current standby version.
Card Info area	
HW Revision	The hardware version of a card.

To switch between current and backup software versions:

In the IF MUX Versions and Reset Management dialog box, click **Switchover**. WALKnet switches between the current and standby software versions and automatically resets the IF MUX.

ATM-NIU Software Versions

WALKnet enables you to view the resident software versions located in the ATM-NIUs. You can switch between current and standby software versions at any time.

To view software versions on an ATM-NIU:

Access the Versions and Reset and Management dialog box in one of the following ways:

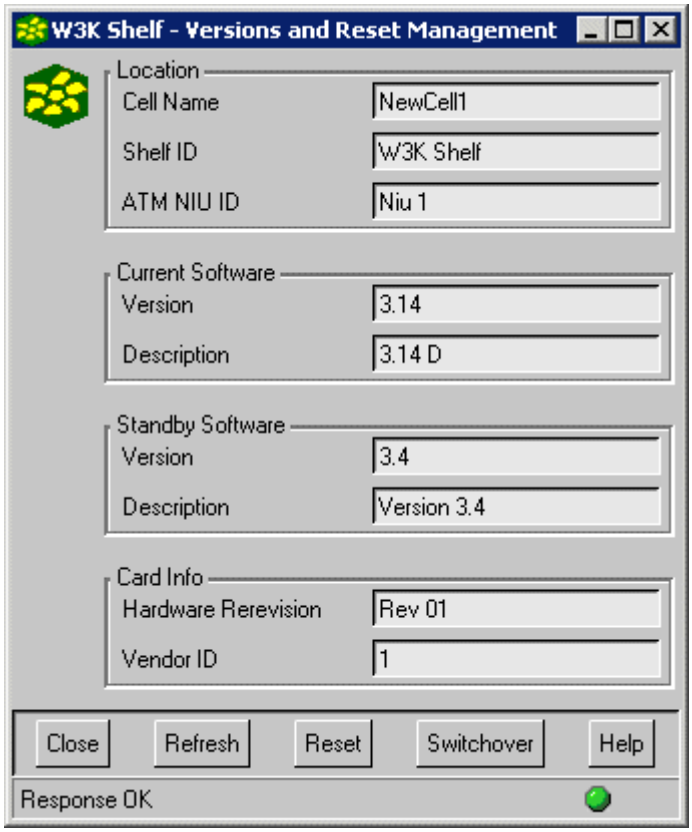
- In ATM-NIU View, select **Versions** from the *ATM-NIU* menu.

  -Or-

- In the WALKnet Main Window, select **Versions** from the *Utility* menu. Then select **W3000 Components, ATM-NIU**.

The *ATM-NIU Versions and Reset Management* dialog box is displayed as shown below:

Figure 10-24: ATM-NIU Versions and Reset Management Dialog Box



The read-only parameters displayed in the *ATM-NIU Versions and Reset Management* dialog box are as follows:

Location area	
Cell Name	The name of the cell for which the NIU has been defined.
Shelf ID	The name of the Shelf for which the NIU has been defined. If a Shelf name is not defined, the Shelf's IP address is used as the Shelf ID.
ATM-NIU ID	The system name, if defined, for the ATM-NIU or, when no system name is defined, the slot number. The system name is defined in the *ATM-NIU Properties Edit* dialog box.
Current Software area	
Version	The active software version.
Description	The description of the active software.
Stand By Software area	
Version	The current standby version.
Description	The description of the current standby version.
Card Info area	
HW Revision	The hardware version of a card.
Vendor ID	The card vendor ID.

To switch between current and backup software versions:

In the ATM-NIU Versions and Reset Management dialog box, click **Switchover**. WALKnet switches between the current and standby software versions and automatically resets the ATM-NIU.

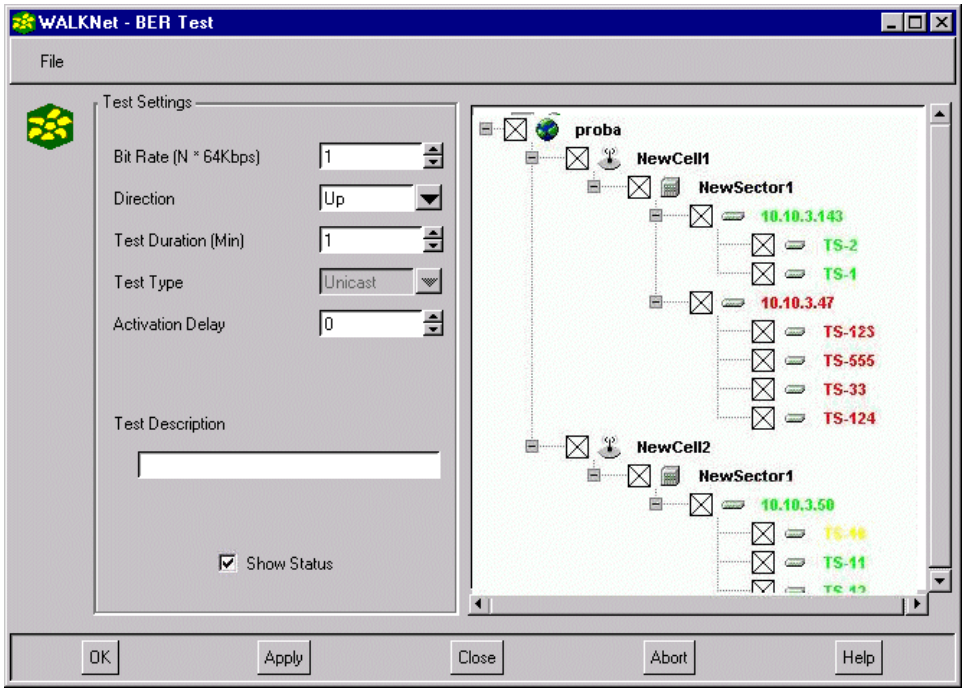
Performing BER Tests

WALKnet enables you to test the BER (Bit Error Rate) without interfering with the normal WALKair operations. The BER meter allows accurate measures of radio air link performance. The BER meter counts the exact number of errored bits, and reports the error measurement to WALKnet.

To activate the BER Test:

1 In the Main window, select **Utilities** from the *Tests* menu and then select **BER Test**. The **BER Test** dialog box is displayed as shown below:

Figure 10-25: BER Test Dialog Box



2 From the **File** menu, select **New Session**. The fields in the *Test Settings* area are enabled.

3 Specify the settings for the test as follows:

Bit Rate (N * 64Kbps)	The bit rate. You specify **N**, which is a number between 1 and 32.
Direction	The direction of the data transmission: **Up**, **Down** or **Up & Down**.
Test Duration (Min)	The duration of the test in minutes.
Test Type	The type of the test. Unicast is the only supported test type.
Activation Delay	When multiple BS-BUs are selected for testing, the delay in minutes between test activation on each BS-BU. When 0 is specified, the test is activated on all BS-BUs at the same time. The delay is in minutes and can be defined between 0 and 24.
Test Description	A description of the test.
Show Status	Whether to display the *BER Test Status* dialog box upon activation of the test.

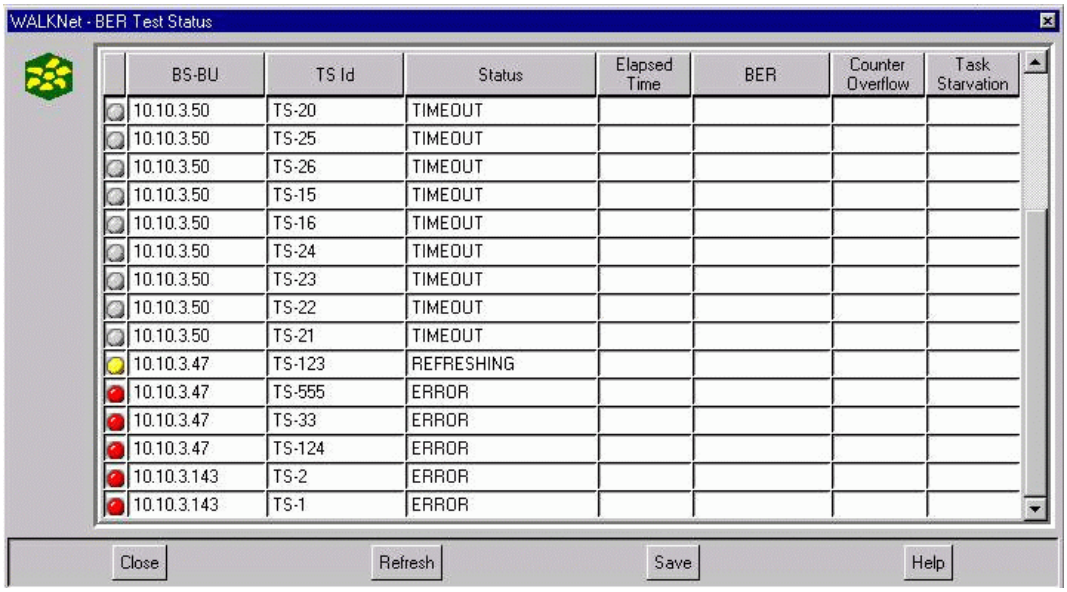
Notes

The test parameters are saved in the WALKnet database. Each time the *BER Test* dialog box is opened, the last defined parameters are displayed..

4 Select the devices to be tested in the tree on the right of the dialog box. All devices lower in the hierarchy are automatically selected (if a cell is checked, so are all the devices in the cell). You can uncheck devices you do not wish to test.

5 Select **OK** or **Apply**. The test is run, and the *BER Test Status* dialog box is displayed as shown below:

Figure 10-26: BER Test Status Dialog Box



Notes

The *BER Test Status* dialog box is only displayed automatically if the **Show Status** checkbox is selected. You can also display the *BER Test Status* dialog box by selecting **Show Results** from the *File* menu..

6 Monitor the status of the BER test as required. The following information is provided for each BS-BU/TS-TU tested:

BS-BU The IP address of the BS-BU.

TS ID The customer ID of the TS-BU.

Status The current status of the test.

Elapsed Time The time in minutes that has elapsed since the beginning of the test.

BER The detected bit error rate.

Counter Overflow The number of times error counters overflow occurred. If 0 is not displayed, the BER test value is not reliable.

Task Starvation The number of times the BER meter task starvation occurred. If 0 is not displayed, the BER test value is not reliable.

Notes

TThe LED to the left of each device indicates the communication status: **Green** indicates **OK**, **Yellow** indicates waiting for response and Red indicates time out.

Notes

WALKnet tracks BER tests and keeps the results in log files. Log files are named **BER_Test(date)(time).log** and placed in the directory defined by the **NMS_LOG** environment variable, sub-directory **BER_Test**. Information is saved to this sub-directory when clicking **Save**.

For information about how to define the **NMS_LOG** Environment Variable, see "Defining the Environmental Variable for Log Files" on page 1-16.

7 To end the session immediately, press the **Abort** button.

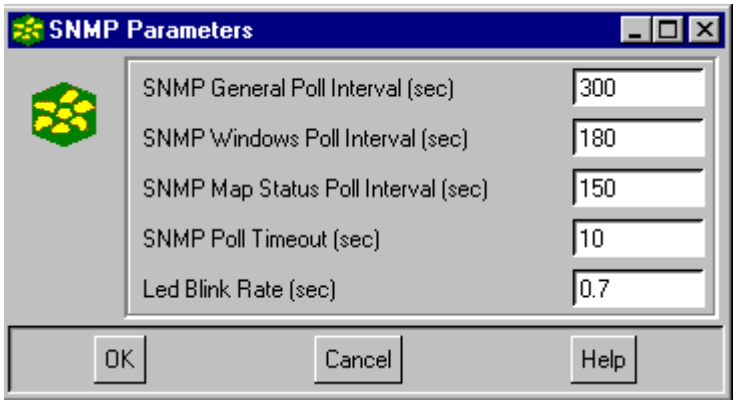
Configuring SNMP Parameters

WALKnet enables you to view and modify parameters relating to WALKnet's communication at the SNMP level. For example, you can specify the frequency at which WALKnet updates statuses.

To view/modify SNMP parameters:

1 In the Main window, select **SNMP Parameters** from the *Utilities* menu. The *SNMP Parameters dialog box* is displayed as shown below:

Figure 10-27: SNMP Parameters Dialog Box



2 Modify the following parameters, as required:

- ◇ SNMP General Poll Interval (sec): The frequency at which WALKnet polls the BS-BUs to update parameters and statuses.
- ◇ SNMP Windows Poll Interval (sec): The frequency at which WALKnet refreshes open windows.
- ◇ SNMP Map Status Poll Interval (sec): The frequency at which WALKnet polls the WALKair devices to update the cell icon on an open map.
- ◇ SNMP Poll Timeout (sec): The period for which WALKnet waits for a response from the BS-BU before considering the BS-BU's status disconnected.
- ◇ Led Blink Rate (sec): The rate at which the LEDs blink.

3 Click **OK**.

11

Chapter 11 - HPOV Customization

In This Chapter:

- "Integration Overview" on page 11-2
- "Alarms Correlation and Object Status Coloring" on page 11-3
- "Access to WALKair Base Station Element View" on page 11-12

Note

Management of both WALKair 3000 and WALKair 1000 elements can be integrated within HP OpenView. WALKair 3000 and WALKair 1000 functions will be referred to jointly as WALKair.

Integration Overview

There are three ways in which HP OpenView is customized by the installation of WALKnet:

1 The WALKair alarms correlation policy is implemented so that HP OpenView conforms to the following requirements:

- If the NNM Event Subsystem receives an ON-type trap (alarm) from a WALKair element and one or more OFF-type traps are received subsequently, the primary ON-type trap and all of the subsequent traps are acknowledged automatically if the following conditions are true:
  - ◇ The IP address of the source of the subsequent traps (the BU element on the WALKair 1000 and the MPU element on the WALKair 3000) is equal to the IP address of the source of the primary trap.
  - ◇ The **buAlarmData** and/or **buTrapSource** values that came with the subsequent traps are equal to the corresponding values of the primary trap.
- If the NNM Event Subsystem receives a sequence of equal traps from the same element and the buAlarmData and/or buTrapSource values of subsequent traps are equal to the corresponding values of the primary trap, then all the subsequent traps within the OV Alarm Browser are correlated under the first trap.
- The user is able to turn off this automated correlation policy so that the correct behavior of the Get Active Alarms operation for a specific element is not prevented.

2 The color of the symbol that represents a specific BU element on the NNM network topology map reflects a maximal severity of the events that came from that element to the OV Event Subsystem.

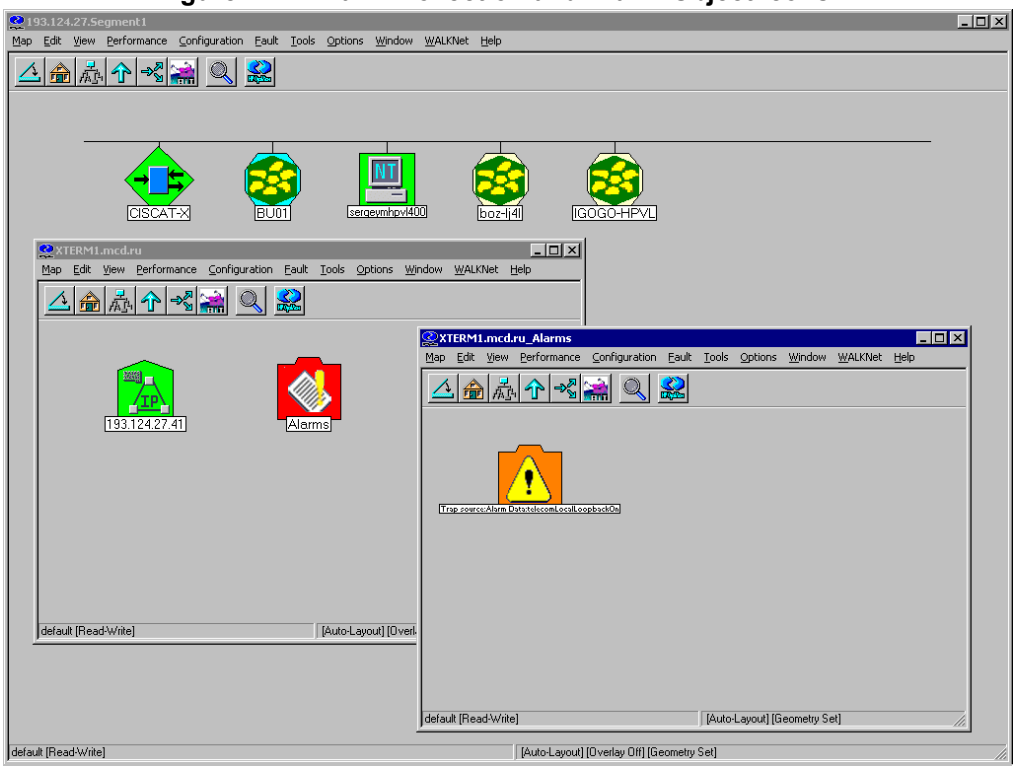
3 The user can open Base Station Element View from the contextual menu of a specific BU object on an NNM topology map. For more details, see "Access to WALKair Base Station Element View" on page 11-12.

Alarms Correlation and Object Status Coloring

Since the WALKair element is an IP device, it is represented on the NNM topology map by a specific type of icon. The *netmon* service, which is one of the standard OV services, is responsible for the discovery and correct recognition of the BU element.

Once a WALKair icon is created on the NNM map, an icon representing a collection of parent WALKair element alarms appears on the WALKair child submap automatically. The *watopomap* service, which is a component of the Integration Pack, creates an alarm collection icon for each of the WALKair elements that are present on the map during the OV GUI startup. These icons are displayed below:

Figure 11-1: Alarm Collection and Alarm Object Icons



The alarm collection contains alarms that come from the specific WALKair device. Once an alarm comes to the OV Event Subsystem from the BU, it is received by the *waalertmgr* service, which is the component of the Integration Pack responsible for events correlation. When the *waalertmgr* service receives an alarm, it retrieves the alarm data necessary to make a decision concerning how to handle the alarm. The service then looks through the contents of the WALKair element's alarm collection. If the same type and source of alarm is found in the alarm collection, the following occurs:

- If the received alarm is an ON-type alarm, it is correlated under the previous alarm within the OV Alarm Browser. No new object is created for such an alarm.

- If the current alarm is an OFF-type alarm, the existing ON-type alarm, as well as all the alarms correlated under it, is acknowledged within the OV Alarm Browser.

- All acknowledged alarms, regardless of how they were acknowledged, either automatically or manually, are removed from the alarm collection.

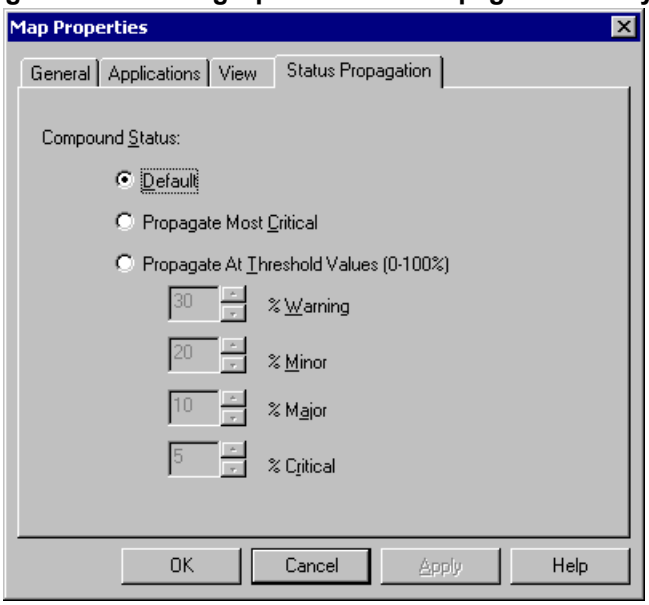
If no alarm object of the same type and source is found in the alarm collection, a new object is created for the ON-type alarm only.

Each of the objects within the alarm collection represents an existing problem with the corresponding BU. If a problem arises, the alarm comes to the OV Event Subsystem and is visualized by means of an alarm object. If subsequent alarms reporting the same problem arrive from the same source, they are only correlated under the existing alarm in the Alarm Browser and no new alarm objects are created within the alarm collection. If the problem is solved, an OFF-type alarm is sent to the OV Event Subsystem, causing automatic acknowledgment of the corresponding ON-type alarms.

Each alarm object that is in the alarm collection is colored according to the status of the alarm that came with the trap data. This color is carried over to the parent object via the standard status-propagation mechanism provided by the NNM. Thus, the status of an alarm is propagated to the alarm collection and subsequently to the parent BU object. The final status and color of the BU object depends on the status propagation policy the current NNM map dictates.

The user can change the current propagation policy for the entire map by selecting the **Status Propagation** tab in the *Map Properties* dialog box, as shown in Figure 11-2. The *Map Properties* dialog box is accessed by selecting **Properties** from the *Map* menu in the NNM main window.

Figure 11-2: Setting Up the Status Propagation Policy



See the *Managing Your Network* NNM manual for more details about managing the status propagation policy.

Each alarm object within a BU's alarm collection has details about the alarm it represents. The object's label consists of three parts, separated by a colon (:). The format of the label is as shown:

<buTrapSource>:<buAlarmData><trap_name>

Where:

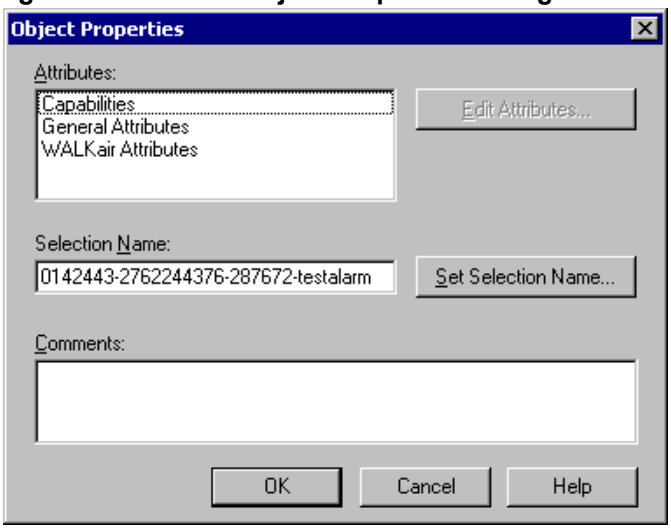
- buTrapSource is the value of the varbind $6 of the alarm. According to the WALKair MIB definition, it is a string containing BS for BS and TS<customer id> for the TS transmitting the trap.

- buAlarmData is the value of the varbind $5 of the alarm. According to the WALKair MIB definition, it is a string containing the number of the port that is the source of the alarm. If the current alarm does not have a buAlarmData varbind, this value is not used in the label.

- Trap_name is the alarm's name, according to the trap-specific number that came with the trap.

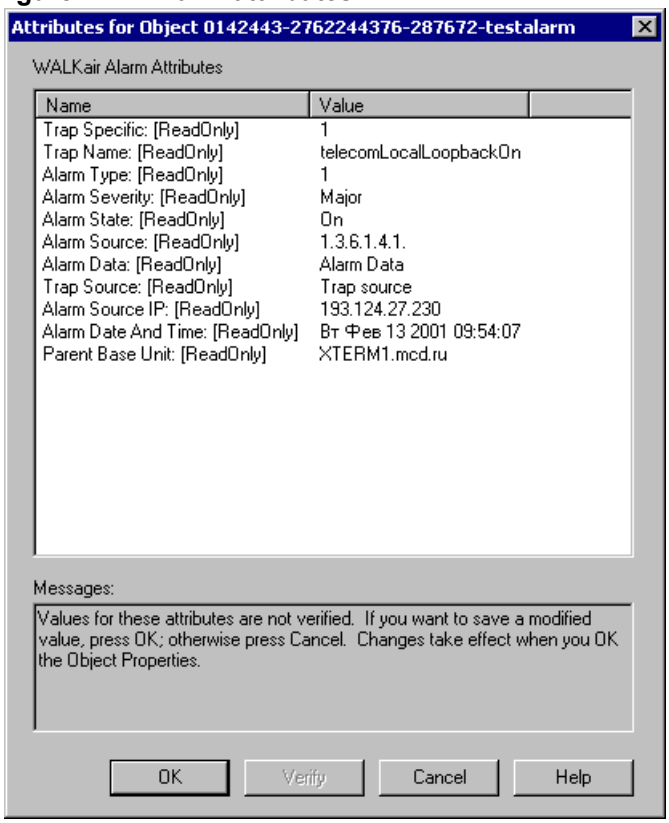
You can display additional properties of the alarm object by right-clicking the alarm object and then selecting **Object Properties** from the displayed popup menu. The *Object Properties* dialog box for that alarm is displayed:

Figure 11-3: Alarm Object Properties Dialog Box



Select **WALKair Attributes** from the **Attributes** area and click **OK**. An *Attributes* dialog box with the specific alarm attributes appears, as shown in Figure 11-4.

Figure 11-4: Alarm attributes



The following is a list of attributes displayed in the dialog box:

Attribute Name	
Trap Specific	The trap-specific number that came within the trap data.
Trap Name	The alarm's name, according to the MIB definition. Each alarm (trap) has a specific name that corresponds to the trap-specific number that came within the trap data.
Alarm Type	The value of the varbind $1 (buAlarmType) that came within the trap data.
Alarm Severity	The value of the varbind $2 (buAlarmSeverity) that came within the trap data.
Alarm State	The value of the varbind $3 (buAlarmState) that came within the trap data. This value determines whether the alarm is ON- or OFF-type.
Alarm Source	The value of the varbind $4 (buAlarmSource) that came within the trap data. According to the MIB description, this value currently has no special meaning and is reserved for the future use.

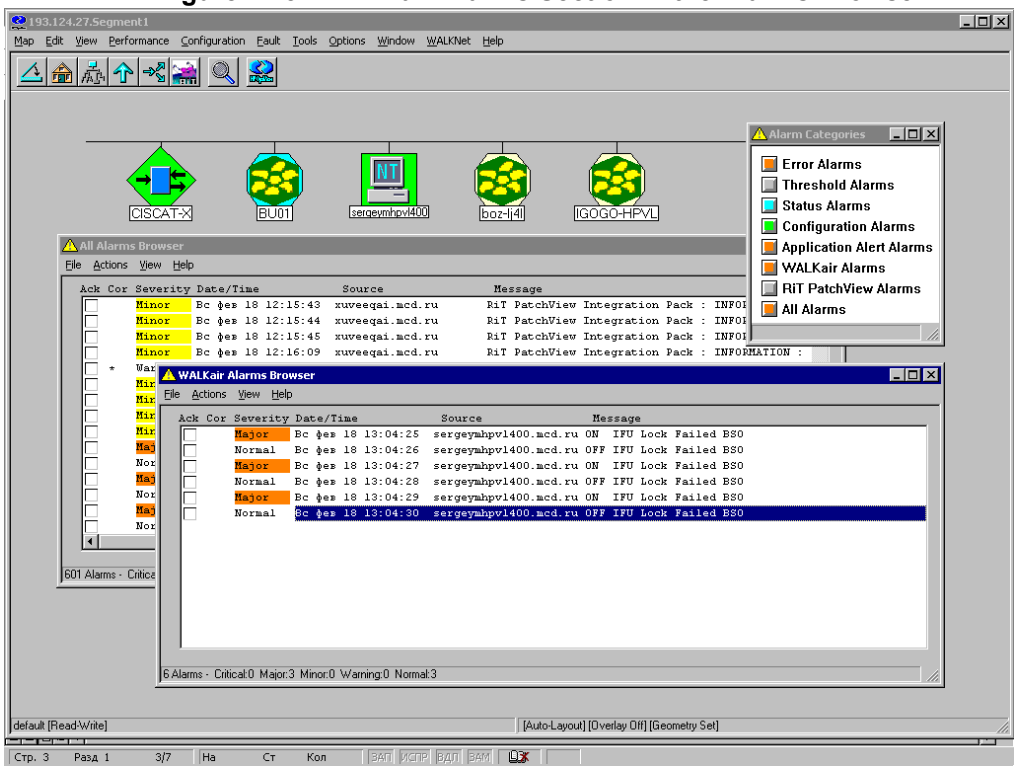
Alarm Data	The value of the varbind $5 (buAlarmData) that came within the trap data. According to the WAL-Kair MIB definition, it is a string containing the number of the port that is the source of the alarm.
Trap Source	The value of the varbind $6 (buTrapSource) that came within the trap data. According to the WAL-Kair MIB definition, it is a string containing BS for BS and TS<customer id> for the TS transmitting the trap.
Alarm Source IP	The IP address of the BU device that is the source of the alarm. The value is stored in the string format.
Alarm Date and Time	The time stamp when the alarm was received by the OV Event Subsystem.
Parent Base Unit	The name of the object representing the BU on the NNM map that is the source of the alarm.

All of these attributes are read only. When you are finished, click **OK** or **Cancel** to close the *Attributes* dialog box.

All alarms that come from the WALKair devices are displayed in a special popup window of the OV Alarm Browser named *WALKair Alarms*. This enables the user to easily and directly access those alarms that are specific to the WALKair environment only, and saves the time that it would have otherwise taken to filter these events from the common flow. To display this popup window, switch to the *Alarm Categories* window, and then select **WALKair Alarms**.

The *WALKair Alarms* window is displayed:

Figure 11-5: WALKair Alarms Section in the Alarms Browser


193.124.27.Segment1
Map Edit View Performance Configuration Fault Tools Options Window WALKNet Help
CISCAT-X
BU01
sergeymhpvl400
boz-lj4l
IGOGO-HPVL
Alarm Categories
Error Alarms
Threshold Alarms
Status Alarms
Configuration Alarms
Application Alert Alarms
WALKair Alarms
RiT PatchView Alarms
All Alarms
All Alarms Browser
File Actions View Help
Ack Cor Severity Date/Time Source Message
WALKair Alarms Browser
File Actions View Help
Ack Cor Severity Date/Time Source Message
Major Вс фев 18 13:04:25 sergeymhpvl400.mcd.ru ON IFU Lock Failed BSO
Normal Вс фев 18 13:04:26 sergeymhpvl400.mcd.ru OFF IFU Lock Failed BSO
Major Вс фев 18 13:04:27 sergeymhpvl400.mcd.ru ON IFU Lock Failed BSO
Normal Вс фев 18 13:04:28 sergeymhpvl400.mcd.ru OFF IFU Lock Failed BSO
Major Вс фев 18 13:04:29 sergeymhpvl400.mcd.ru ON IFU Lock Failed BSO
Normal Вс фев 18 13:04:30 sergeymhpvl400.mcd.ru OFF IFU Lock Failed BSO
6 Alarms - Critical:0 Major:3 Minor:0 Warning:0 Normal:3
default [Read-Write]
[Auto-Layout] [Overlay Off] [Geometry Set]

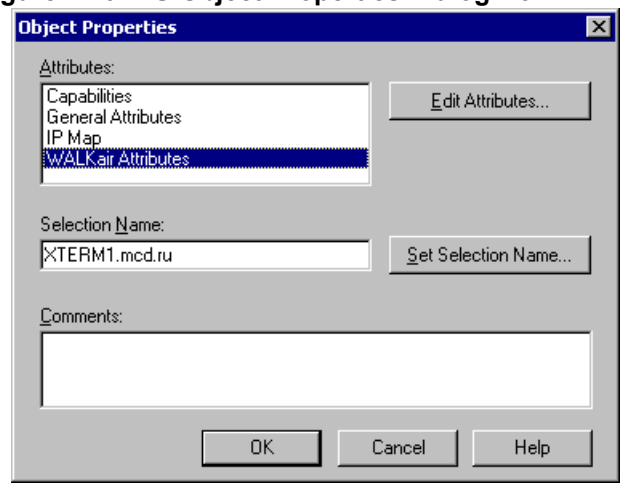
By default, the automated correlation policy described above, works for any BU object represented by an icon on the NNM map. No correlation policy will work if the alarm came to the OV Event Subsystem from a WALKair element that is not present on the map. To activate the correlation policy for a WALKair device that is not on the map, you must first create the corresponding icon on the map.

Disabling a Correlation Policy

To disable the correlation policy for a specific WALKair element on the map, follow this procedure:

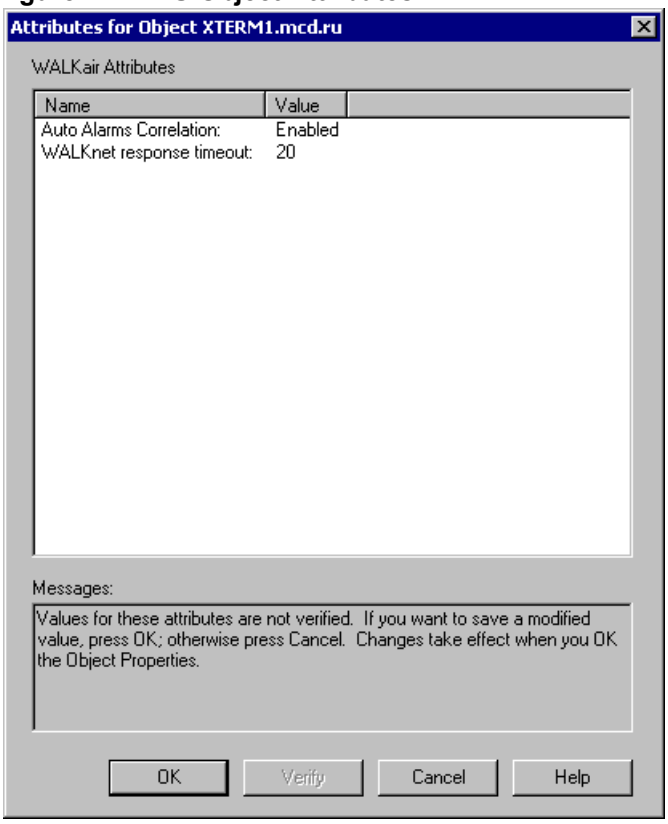
1 Right-click the desired BU object and select **Object Properties** from the displayed popup menu. The BU's *Object Properties* dialog box is displayed:

Figure 11-6: BU Object Properties Dialog Box



2 Select **WALKair Attributes** from the **Attributes** area and click **OK**. An *Attributes* dialog box with the specific BU attributes is displayed:

Figure 11-7: BU Object Attributes



3 Select **Auto Alarms Correlation**, choose **Disabled** in the dialog box that appears, and then click **OK** in all the dialog boxes for the new setting to take effect.

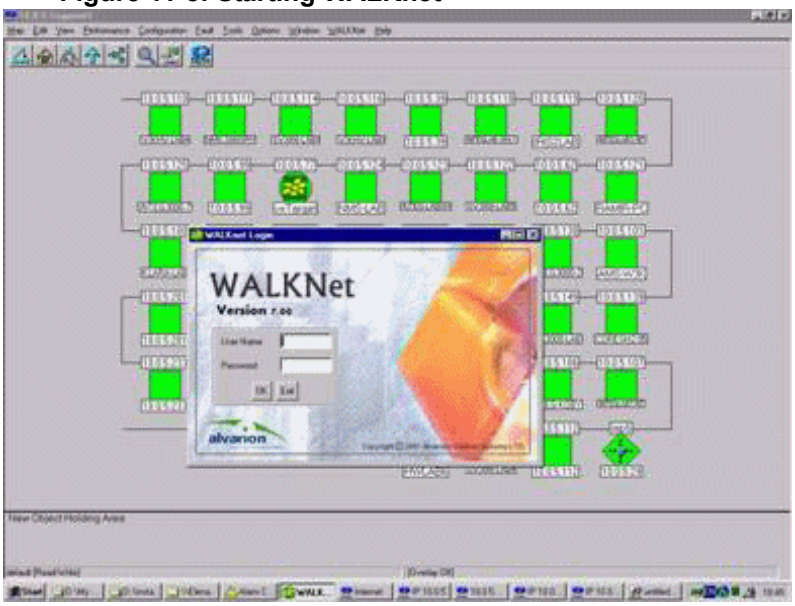
Remember that when you turn the correlation policy on or off, it influences all the alarms originating from the specific device. It is not possible to enable or disable a correlation policy for each alarm selectively.

Access to WALKair Base Station Element View

To start a WALKair Base Station Element View window from a specific BU object's contextual menu, select **Start BS/BU View Window** from the right-click popup menu of the icon representing that BU element on the NNM map. For WALKair 3000, select **Start Shelf View Window** from the right-click popup menu of the icon representing the MPU on the NNM map. The following occurs:

- If the WALKnet application is not currently running, it is launched so that the required screen for the specific object is displayed automatically. The user must complete the proper login procedure. When the WALKnet application starts, a special window responsible for communication with HP OpenView appears, as shown in Figure 11-8. Do not close this window until the interaction between HPOV and WALKnet is no longer required.

Figure 11-8: Starting WALKnet



- If the WALKnet application is already running, it displays the required screen automatically, and no authorization procedure is needed (as it was done previously, when the WALKnet application was started). If the WALKnet application does not respond to the request within a predefined time interval, an error message appears, notifying the user

that the time limit has expired. If this happens, the current WALKnet session should be closed manually, and the user should attempt to open the WALKair Base Station Element View window again.

To change the timeout value for a WALKnet response, follow this procedure:

1 Right-click the desired WALKair element and select **Object Properties** from the displayed popup menu. The *Object Properties* dialog box appears, as shown in Figure 11-6 on page 11-10.

2 Select **WALKair Attributes** from the **Attributes** area and click **OK**. An *Attributes* dialog box with the specific WALKair attributes appears, as shown in Figure 11-7 on page 11-10.

3 Select **WALKnet response timeout**, choose a value between five and 60 seconds in the dialog box that is displayed, and then click **OK** for the new value to take effect.

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12

Chapter 12 - The WALKnet Alarm Browser

In This Chapter:

This Chapter describes the *WALKnet Alarm Browser*.

Overview

From WALKnet Version 7.7, as an alternative to *HP OpenView*, you can use the *WALKnet Alarms Browser* to view the SNMP traps that arrive from the WALKair 1000 and WALKair 3000 configured devices to WALKnet, without having to install any additional software.

Note

We recommend to use *HP OpenView* for large installations. For more information about *HP OpenView* integration with *WALKnet*, see "HPOV Customization" on page 11-1 of this user's manual.

Note

The *WALKnet Alarms Browser* is only available if

- *HP OpenView* is installed on the terminal, but is not currently open.

-Or-

- *HP OpenView* is not installed on the terminal.

WALKnet's Alarm Browser provides a convenient central location for monitoring critical events on your network. The *WALKnet Alarm Browser* enables you to perform the following operations:

- Displaying useful information about why an alarm was initiated
- Sorting alarms in an alarms list according to various parameters: for example, according to the date and time when the alarms were sent, or according to the alarm severity
- Acknowledging that the problem causing an alarm is being addressed, by marking the alarm in an alarms list
- Deleting alarms from an alarms list after the issues are resolved
- Opening and displaying previously archived alarms lists

The *WALKnet Alarm Browser* saves a text file that includes all the alarms (traps) that were sent during the current day. This occurs automatically at 12:00 AM. The file, with extension **.trap*, has the format *mm-dd-yyyy.trap*. The file can be opened in text editors, and you can change the filename if necessary.

- Saving an edited alarms list in a text file, in the format **.trap*. Later on, the archived alarms list can be opened for reference or analysis

- Requesting to send traps (alarms) from a *WALKair 1000* or *WALKair 3000* device and displaying the device's alarms in an alarms list.

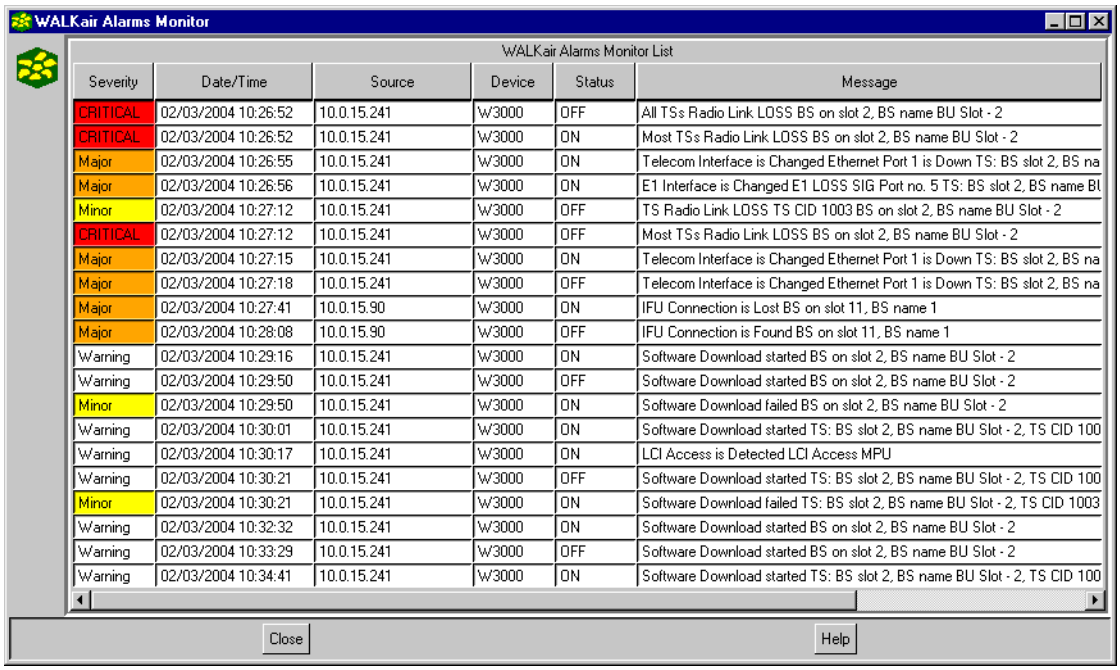
Alarm Browser Windows

WALKnet's Alarm Browser includes two alarm display windows as follows:

- *WALKair Alarms Monitor* window
- *WALKair Alarms History* window

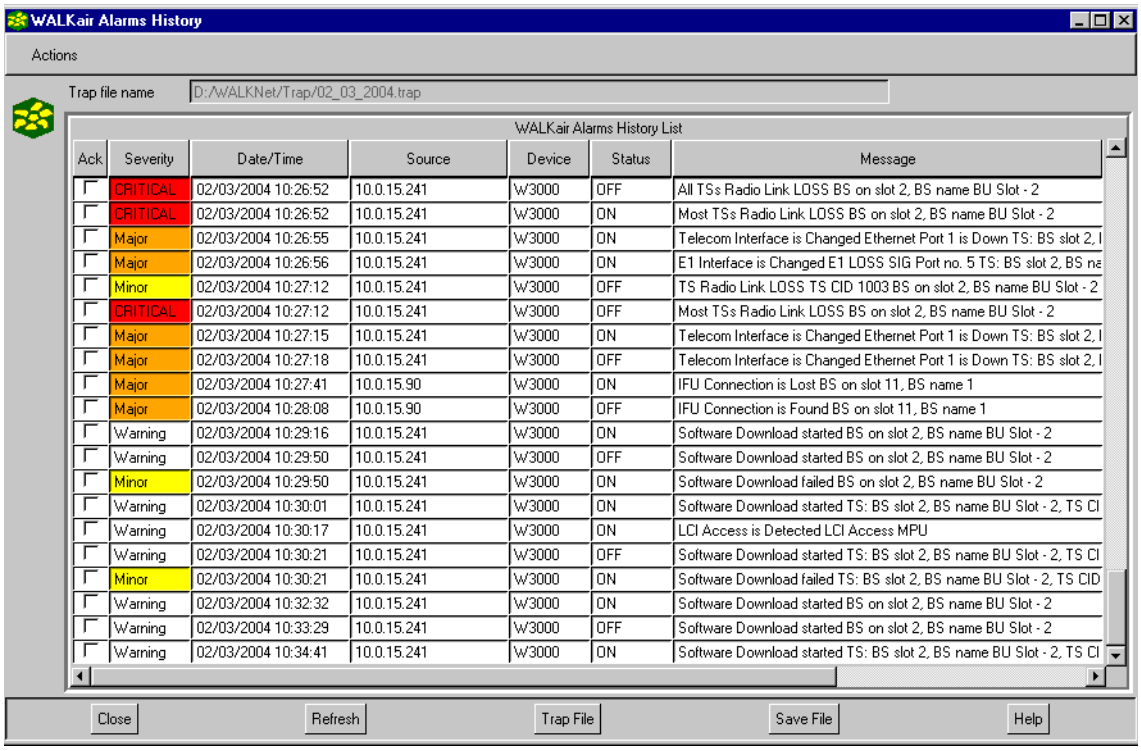
The *WALKair Alarms Monitor* and *WALKair Alarms History* windows are shown below.

Figure 12-1: WALKair Alarms Monitor Window



Severity	Date/Time	Source	Device	Status	Message
CRITICAL	02/03/2004 10:26:52	10.0.15.241	W3000	OFF	All TSs Radio Link LOSS BS on slot 2, BS name BU Slot - 2
CRITICAL	02/03/2004 10:26:52	10.0.15.241	W3000	ON	Most TSs Radio Link LOSS BS on slot 2, BS name BU Slot - 2
Major	02/03/2004 10:26:55	10.0.15.241	W3000	ON	Telecom Interface is Changed Ethernet Port 1 is Down TS: BS slot 2, BS na
Major	02/03/2004 10:26:56	10.0.15.241	W3000	ON	E1 Interface is Changed E1 LOSS SIG Port no. 5 TS: BS slot 2, BS name Bl
Minor	02/03/2004 10:27:12	10.0.15.241	W3000	OFF	TS Radio Link LOSS TS CID 1003 BS on slot 2, BS name BU Slot - 2
CRITICAL	02/03/2004 10:27:12	10.0.15.241	W3000	OFF	Most TSs Radio Link LOSS BS on slot 2, BS name BU Slot - 2
Major	02/03/2004 10:27:15	10.0.15.241	W3000	ON	Telecom Interface is Changed Ethernet Port 1 is Down TS: BS slot 2, BS na
Major	02/03/2004 10:27:18	10.0.15.241	W3000	OFF	Telecom Interface is Changed Ethernet Port 1 is Down TS: BS slot 2, BS na
Major	02/03/2004 10:27:41	10.0.15.90	W3000	ON	IFU Connection is Lost BS on slot 11, BS name 1
Major	02/03/2004 10:28:08	10.0.15.90	W3000	OFF	IFU Connection is Found BS on slot 11, BS name 1
Warning	02/03/2004 10:29:16	10.0.15.241	W3000	ON	Software Download started BS on slot 2, BS name BU Slot - 2
Warning	02/03/2004 10:29:50	10.0.15.241	W3000	OFF	Software Download started BS on slot 2, BS name BU Slot - 2
Minor	02/03/2004 10:29:50	10.0.15.241	W3000	ON	Software Download failed BS on slot 2, BS name BU Slot - 2
Warning	02/03/2004 10:30:01	10.0.15.241	W3000	ON	Software Download started TS: BS slot 2, BS name BU Slot - 2, TS CID 100
Warning	02/03/2004 10:30:17	10.0.15.241	W3000	ON	LCI Access is Detected LCI Access MPU
Warning	02/03/2004 10:30:21	10.0.15.241	W3000	OFF	Software Download started TS: BS slot 2, BS name BU Slot - 2, TS CID 100
Minor	02/03/2004 10:30:21	10.0.15.241	W3000	ON	Software Download failed TS: BS slot 2, BS name BU Slot - 2, TS CID 1003
Warning	02/03/2004 10:32:32	10.0.15.241	W3000	ON	Software Download started BS on slot 2, BS name BU Slot - 2
Warning	02/03/2004 10:33:29	10.0.15.241	W3000	OFF	Software Download started BS on slot 2, BS name BU Slot - 2
Warning	02/03/2004 10:34:41	10.0.15.241	W3000	ON	Software Download started TS: BS slot 2, BS name BU Slot - 2, TS CID 100

Figure 12-2: WALKair Alarms History Window


WALKair Alarms History
Actions
Trap file name
D:/WALKNet/Trap/02_03_2004.trap
WALKair Alarms History List
Ack
Severity
Date/Time
Source
Device
Status
Message
CRITICAL 02/03/2004 10:26:52 10.0.15.241 W3000 OFF All TSs Radio Link LOSS BS on slot 2, BS name BU Slot - 2
CRITICAL 02/03/2004 10:26:52 10.0.15.241 W3000 ON Most TSs Radio Link LOSS BS on slot 2, BS name BU Slot - 2
Major 02/03/2004 10:26:55 10.0.15.241 W3000 ON Telecom Interface is Changed Ethernet Port 1 is Down TS: BS slot 2,
Major 02/03/2004 10:26:56 10.0.15.241 W3000 ON E1 Interface is Changed E1 LOSS SIG Port no. 5 TS: BS slot 2, BS na
Minor 02/03/2004 10:27:12 10.0.15.241 W3000 OFF TS Radio Link LOSS TS CID 1003 BS on slot 2, BS name BU Slot - 2
CRITICAL 02/03/2004 10:27:12 10.0.15.241 W3000 OFF Most TSs Radio Link LOSS BS on slot 2, BS name BU Slot - 2
Major 02/03/2004 10:27:15 10.0.15.241 W3000 ON Telecom Interface is Changed Ethernet Port 1 is Down TS: BS slot 2,
Major 02/03/2004 10:27:18 10.0.15.241 W3000 OFF Telecom Interface is Changed Ethernet Port 1 is Down TS: BS slot 2,
Major 02/03/2004 10:27:41 10.0.15.90 W3000 ON IFU Connection is Lost BS on slot 11, BS name 1
Major 02/03/2004 10:28:08 10.0.15.90 W3000 OFF IFU Connection is Found BS on slot 11, BS name 1
Warning 02/03/2004 10:29:16 10.0.15.241 W3000 ON Software Download started BS on slot 2, BS name BU Slot - 2
Warning 02/03/2004 10:29:50 10.0.15.241 W3000 OFF Software Download started BS on slot 2, BS name BU Slot - 2
Minor 02/03/2004 10:29:50 10.0.15.241 W3000 ON Software Download failed BS on slot 2, BS name BU Slot - 2
Warning 02/03/2004 10:30:01 10.0.15.241 W3000 ON Software Download started TS: BS slot 2, BS name BU Slot - 2, TS CI
Warning 02/03/2004 10:30:17 10.0.15.241 W3000 ON LCI Access is Detected LCI Access MPU
Warning 02/03/2004 10:30:21 10.0.15.241 W3000 OFF Software Download started TS: BS slot 2, BS name BU Slot - 2, TS CI
Minor 02/03/2004 10:30:21 10.0.15.241 W3000 ON Software Download failed TS: BS slot 2, BS name BU Slot - 2, TS CID
Warning 02/03/2004 10:32:32 10.0.15.241 W3000 ON Software Download started BS on slot 2, BS name BU Slot - 2
Warning 02/03/2004 10:33:29 10.0.15.241 W3000 OFF Software Download started BS on slot 2, BS name BU Slot - 2
Warning 02/03/2004 10:34:41 10.0.15.241 W3000 ON Software Download started TS: BS slot 2, BS name BU Slot - 2, TS CI
Close
Refresh
Trap File
Save File
Help

The *WALKair Alarms Monitor* Window displays (in real-time) the most recent twenty SNMP traps (alarms) sent by WALKair 1000/WALKair 3000 devices, and received by the WALKnet application. The *WALKair Alarms History* window can display all the alarms from the devices. Its display is refreshed manually by the operator.

Opening the WALKair Alarms Monitor and Alarms History Windows

To open the WALKair Alarms Monitor window:

In the *WALKnet Map* (main) window, from the *Fault* menu, select **WALKair Alarms Monitor** from the list.

To open the WALKair Alarms History window:

In the *WALKnet Map* (main) window, from the *Fault* menu, select **WALKair Alarms History** from the list.

WALKair Alarms Lists

Both the *WALKair Alarms Monitor* window and *WALKair Alarms History* window contain a WALKair alarms list that includes the following columns.

Column	Meaning
Ack	Acknowledge: Check this check-box to indicate that the alarm has been dealt with
Severity	Indicates the severity of the alarm. Alarm severities are listed later in this section (see "Alarm Severity Levels Display" on page 12-6).
Date/Time	Indicates the Date and Time when the alarm was sent.
Source	The IP Address of the unit where the alarm originated
Device	The type of the device in which the alarm originated: WALKair 1000 or WALKair 3000.
Status	Indicates whether the alarm is active (ON) or has been cleared (OFF)
Message	Description of the initiated alarm.

Alarm Severity Levels Display

WALKnet's Alarms Browser displays alarm severity levels according to the following color codes

Alarm	Color
Critical	Red
Major	Orange
Minor	Yellow
Normal	White
Warning	White

Alarm Browser Buttons

The Alarm Browser windows include the following buttons:

Button	Title	Function
	Refresh (Alarms History window only)	Refreshes (updates) the WALKair Alarms List in the WALKnet Alarm Browser to include the most recent alarm (s).
	Trap File (Alarms History window only)	Enables you to open a Trap file (with the extension *.trap), that includes a list of alarms.
	Save File (Alarms History window only)	Enables you to save selected alarms into a Trap file (with the extension *.trap)
	Close	Closes the window.
	Help	Opens the Help file.

Alarm Browser Menu

The WALKair Alarms History window includes an *Actions* menu.

Actions Menu Item	Meaning
Acknowledge	Marks a selected group of alarms, or all the alarms in the *WALKair Alarms History* window, by checking the **Ack** column check-boxes, as alarms that have been dealt with or cleared.
Unacknowledge	Alarms in the History windows are unacknowledged by default, i.e, the **Ack** column check-boxes are unchecked (see above). You can unacknowledge previously acknowledged alarms by unchecking the **Ack** column check boxes for the alarms.
Delete	Deletes a selected group of alarms, or all the alarms in the *WALKair Alarms History* window.
Get Active Alarms	Gets alarms from a selected WALKair 1000 or WALKair 3000 device, and displays the alarms in the *WALKair Alarms Monitor* window. You can initiate **Get Active Alarms** from either the *WALKair Alarms History* window, or from *Sector View* for any device.

Manipulating Alarms

Sorting Alarms

You can sort alarms in both the WALKair Alarms Monitor and Alarms History windows.

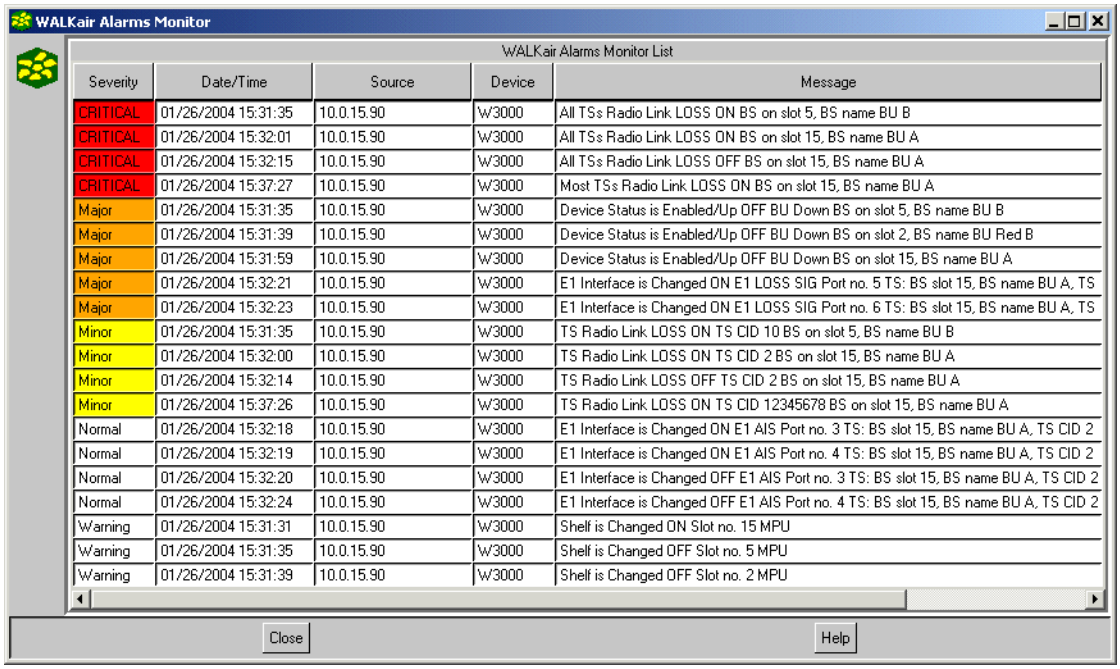
In the *WALKair Alarms Monitor* window, you can sort the *Severity*, *Date/Time*, *Source* (IP Address), *Device* (W3000 or W1000) or *Status*, by clicking the column header for the item to sort

Note

When you sort according to *Date/Time* in the *WALKair Alarms Monitor* window, the most recent alarm is displayed at the bottom of the list.

For example, to display the alarms in groups according to their severity levels, click on the **Severity** column header (shown below).

Figure 12-3: Alarms sorted according to Severity in the Alarms List



Severity	Date/Time	Source	Device	Message
CRITICAL	01/26/2004 15:31:35	10.0.15.90	W3000	All TSs Radio Link LOSS ON BS on slot 5, BS name BU B
CRITICAL	01/26/2004 15:32:01	10.0.15.90	W3000	All TSs Radio Link LOSS ON BS on slot 15, BS name BU A
CRITICAL	01/26/2004 15:32:15	10.0.15.90	W3000	All TSs Radio Link LOSS OFF BS on slot 15, BS name BU A
CRITICAL	01/26/2004 15:37:27	10.0.15.90	W3000	Most TSs Radio Link LOSS ON BS on slot 15, BS name BU A
Major	01/26/2004 15:31:35	10.0.15.90	W3000	Device Status is Enabled/Up OFF BU Down BS on slot 5, BS name BU B
Major	01/26/2004 15:31:39	10.0.15.90	W3000	Device Status is Enabled/Up OFF BU Down BS on slot 2, BS name BU Red B
Major	01/26/2004 15:31:59	10.0.15.90	W3000	Device Status is Enabled/Up OFF BU Down BS on slot 15, BS name BU A
Major	01/26/2004 15:32:21	10.0.15.90	W3000	E1 Interface is Changed ON E1 LOSS SIG Port no. 5 TS: BS slot 15, BS name BU A, TS
Major	01/26/2004 15:32:23	10.0.15.90	W3000	E1 Interface is Changed ON E1 LOSS SIG Port no. 6 TS: BS slot 15, BS name BU A, TS
Minor	01/26/2004 15:31:35	10.0.15.90	W3000	TS Radio Link LOSS ON TS CID 10 BS on slot 5, BS name BU B
Minor	01/26/2004 15:32:00	10.0.15.90	W3000	TS Radio Link LOSS ON TS CID 2 BS on slot 15, BS name BU A
Minor	01/26/2004 15:32:14	10.0.15.90	W3000	TS Radio Link LOSS OFF TS CID 2 BS on slot 15, BS name BU A
Minor	01/26/2004 15:37:26	10.0.15.90	W3000	TS Radio Link LOSS ON TS CID 12345678 BS on slot 15, BS name BU A
Normal	01/26/2004 15:32:18	10.0.15.90	W3000	E1 Interface is Changed ON E1 AIS Port no. 3 TS: BS slot 15, BS name BU A, TS CID 2
Normal	01/26/2004 15:32:19	10.0.15.90	W3000	E1 Interface is Changed ON E1 AIS Port no. 4 TS: BS slot 15, BS name BU A, TS CID 2
Normal	01/26/2004 15:32:20	10.0.15.90	W3000	E1 Interface is Changed OFF E1 AIS Port no. 3 TS: BS slot 15, BS name BU A, TS CID 2
Normal	01/26/2004 15:32:24	10.0.15.90	W3000	E1 Interface is Changed OFF E1 AIS Port no. 4 TS: BS slot 15, BS name BU A, TS CID 2
Warning	01/26/2004 15:31:31	10.0.15.90	W3000	Shelf is Changed ON Slot no. 15 MPU
Warning	01/26/2004 15:31:35	10.0.15.90	W3000	Shelf is Changed OFF Slot no. 5 MPU
Warning	01/26/2004 15:31:39	10.0.15.90	W3000	Shelf is Changed OFF Slot no. 2 MPU

In the *WALKair Alarms History* window, you can sort the *Severity*, *Date/Time*, *Source* (IP Address) and *Device* (W3000 or W1000) or *Status*, by clicking the column header for the item to sort.

Note

The columns in the *WALKair Alarms History* window support toggled sorting: For example, if you click once on the *Date/Time* column header, the most recent alarm is displayed as the bottom of the list. If you click again on the same column header, the most recent alarm is displayed at the top of the list.

Acknowledging Alarms

You acknowledge an alarm to indicate that the alarm was dealt with, or that the problem or issue is solved.

To acknowledge a group of alarms in the alarms list:

You can do this in either of the following ways in the *WALKair Alarms History* window:

- Select one or more alarms by clicking the **Ack** column check box(es) in the alarm(s) row(s) for the alarm(s).

  -Or-

- Select one or more alarms by clicking the row(s) for the alarm(s) Then, from the *Actions* menu, select **Acknowledge**, and then **Selected Alarms**.

Note

Use the <CTRL> key on the keyboard and mouse to select alarms one by one, and the <Shift> key and mouse to select a group of adjacent alarms.

For each selected alarm, the **Ack** column check box is marked.

To acknowledge all the alarms in the alarms list:

- In the *WALKair Alarms History* window, from the *Actions* menu, select **Acknowledge**, and then **All Alarms**.

For each alarm in the list, the **Ack** column check box is marked.

To unacknowledge a group of alarms:

If you want to mark one or more previously acknowledged alarm(s) as unacknowledged, you can do this in one of the following ways in the *WALKair Alarms History* window:

- Unselect one or more alarms by clearing the **Ack** column check box(es), one by one, in the alarm(s) row(s) for the alarm(s).

  -Or-

- Select one or more acknowledged alarms by clicking the row(s) for the alarm(s) Then, from the *Actions* menu, select **Unacknowledge**, and then **Selected Alarms**.

Note

Use the **<CTRL>** key on the keyboard and mouse to select alarms one by one, and the **<Shift>** key and mouse to select a group of adjacent alarms.

For each selected alarm, the **Ack** column check box mark is removed.

To unacknowledge all the alarms in the alarms list:

- In the *WALKair Alarms History* window, from the *Actions* menu, select **Unacknowledge**, and then **All Alarms**.

  For each alarm in the list, the **Ack** column check box is cleared.

Deleting Alarms

You can delete one or more alarms from the alarms list in the WALKair Alarms History window. You can delete either a group of selected alarms, acknowledged alarms (see "Acknowledging Alarms" on page 12-11), or all the alarms in the list.

Note

To delete alarms you must log in to *WALKnet* as either an *Administrator* or an *Operator*. *Tester* and *Monitor* users are not authorized to delete alarms.

To delete selected alarms:

1 In the *WALKair Alarms History* window, select one or more alarms by clicking on the alarm row(s).

Note

Use the **<CTRL>** key on the keyboard and mouse to select alarms one by one, and the **<Shift>** key and mouse to select a group of adjacent alarms.

2 From the *Actions* menu, select **Delete**, and then **Selected Alarms**.

The selected alarms are removed from the alarms list.

To delete acknowledged alarms:

1 In the *WALKair Alarms History* window, from the *Actions* menu, select **Delete**, and then **Acknowledged Alarms**.

The acknowledged alarms are removed from the alarms list

.

To delete all the alarms in the alarms list:

1 In the *WALKair Alarms History* window, from the *Actions* menu, select **Delete**, and then **All Alarms**.

Saving an Alarms File

At any time, you can save an alarms file, with a filename of your choice, that includes all the alarms currently displayed in the *WALKair Alarms History* window.

Note

To save an alarms file, you must log in to WALKnet as either an *Administrator* or an *Operator*. *Tester* and *Monitor* users are not authorized to delete alarms.

WALKnet tracks your *WALKnet Alarm Browser* file saves and keeps the results in log files. Log files are named **(date).trap** and placed in the directory defined by the **NMS_LOG** environment variable, sub-directory **Trap**.

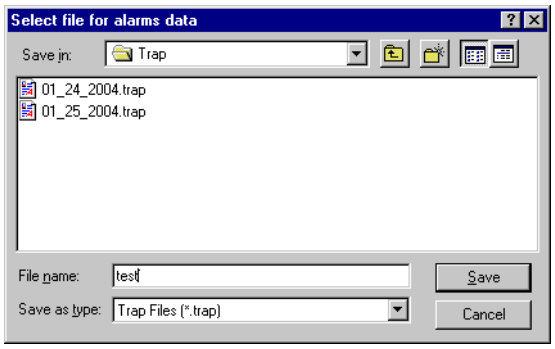
Notes

For information about how to define the **NMS_LOG** Environment Variable, see "Defining the Environmental Variable for Log Files" on page 1-16.

To save an alarms file:

1 In the *WALKair Alarms History* window, click on the Save File button to display the *Save File for Alarms Data* window.

Figure 12-4: Saving an Alarms File



2 Type a name for the file, and click on the **Save** button.

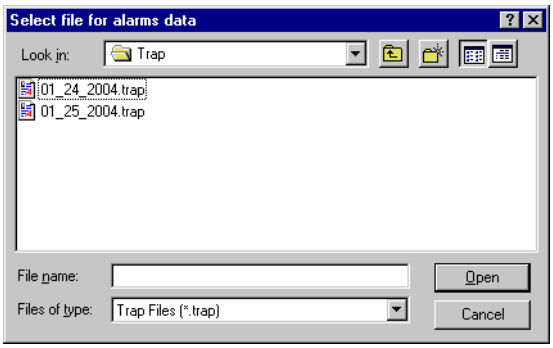
Opening an Alarms File

You can open any previously saved *.trap file (according to date) and load it into the *WALKair Alarms History* window.

To open an alarms file:

1 In the WALKair Alarms History window, click on the Trap File button to open the *Select File for Alarms Data* window.

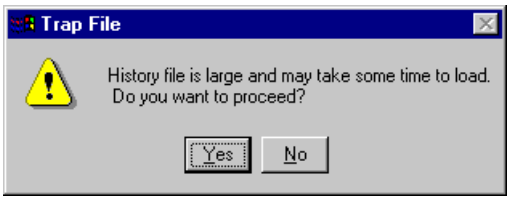
Figure 12-5: Opening an Alarms File



2 Select the file you want and click on the **Open** button.

Note

if the alarms file you want to open is at least 300 kb in size (including approximately 3000 alarms), it will take some to load. In such cases, the message box shown on the left is displayed. Click on the **Yes** button to proceed or on the **No** button to cancel file open.



The selected alarms in the trap file display in the *WALKair Alarms History* window.

Requesting Active Alarms for a Device

You can send a request (*Get Active Alarms*) to a WALKair 1000 or WALKair 3000 device to send its active alarms to the *WALKair Alarms Monitor* for display. You can initiate **Get Active Alarms** from either the *WALKair Alarms History* window, or from *Sector View* (for any WALKair BS-BU).

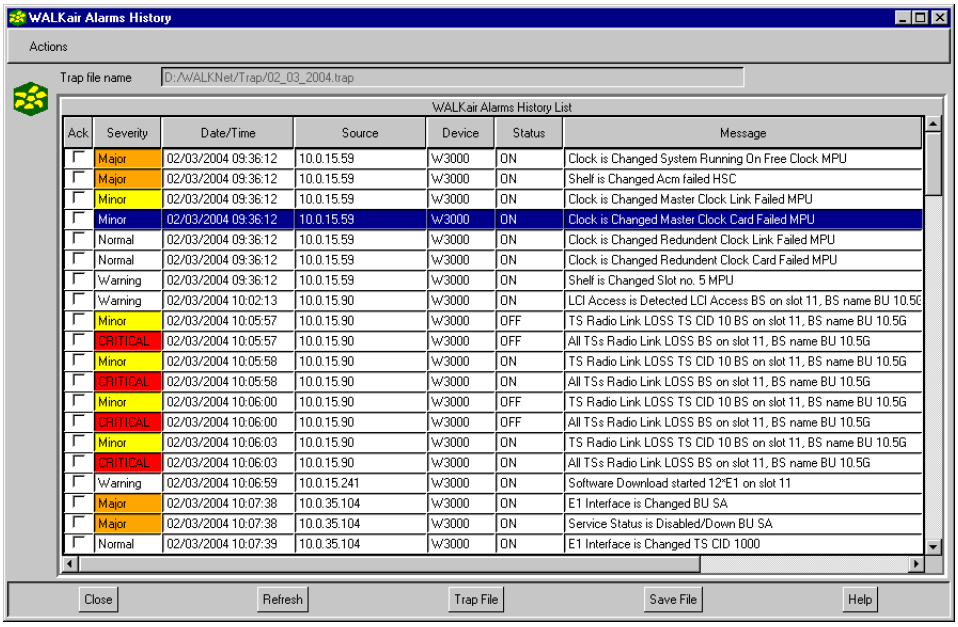
Requesting Active Alarms from the WALKair Alarms History Window

To request active alarms display for a device:

1 Display both the *WALKair Alarms Monitor* and *WALKair Alarms History* on your monitor.

2 In the WALKair Alarms History window, click on a row for the device. In the example below, the device with IP Address 10.0.15.59.

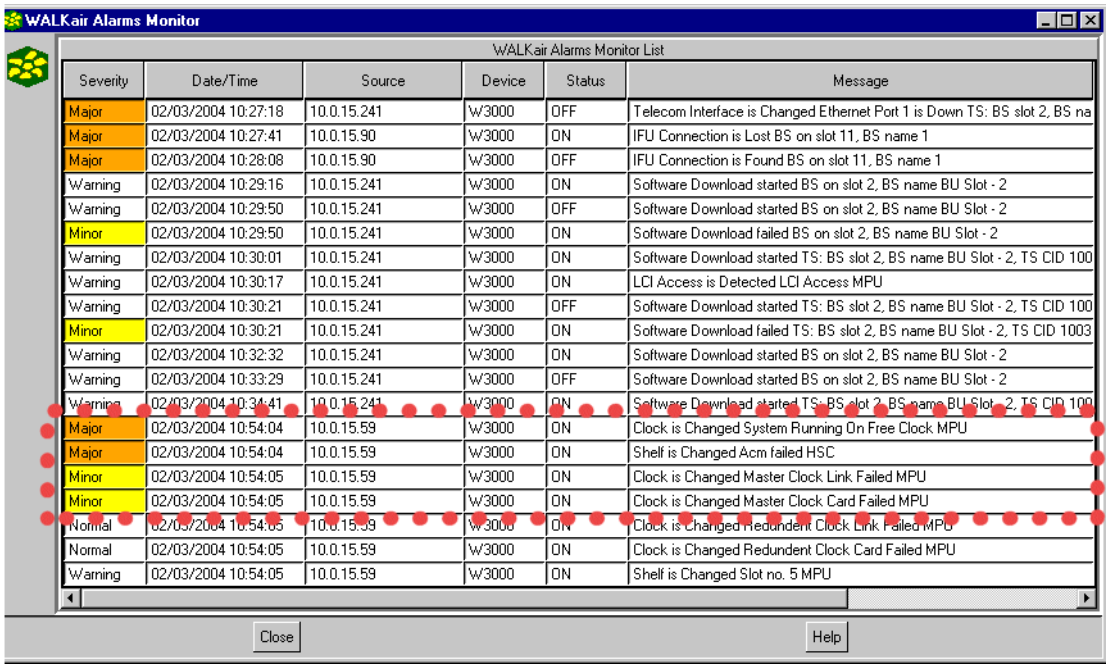
Figure 12-6: Selecting a Device - WALKair Alarms History


WALKair Alarms History
Actions
Trap file name
D:/WALKNet/Trap/02_03_2004.trap
WALKair Alarms History List
Ack | Severity | Date/Time | Source | Device | Status | Message
Major | 02/03/2004 09:36:12 | 10.0.15.59 | W3000 | ON | Clock is Changed System Running On Free Clock MPU
Major | 02/03/2004 09:36:12 | 10.0.15.59 | W3000 | ON | Shelf is Changed Acm failed HSC
Minor | 02/03/2004 09:36:12 | 10.0.15.59 | W3000 | ON | Clock is Changed Master Clock Link Failed MPU
Minor | 02/03/2004 09:36:12 | 10.0.15.59 | W3000 | ON | Clock is Changed Master Clock Card Failed MPU
Normal | 02/03/2004 09:36:12 | 10.0.15.59 | W3000 | ON | Clock is Changed Redundent Clock Link Failed MPU
Normal | 02/03/2004 09:36:12 | 10.0.15.59 | W3000 | ON | Clock is Changed Redundent Clock Card Failed MPU
Warning | 02/03/2004 09:36:12 | 10.0.15.59 | W3000 | ON | Shelf is Changed Slot no. 5 MPU
Warning | 02/03/2004 10:02:13 | 10.0.15.90 | W3000 | ON | LCI Access is Detected LCI Access BS on slot 11, BS name BU 10.5G
Minor | 02/03/2004 10:05:57 | 10.0.15.90 | W3000 | OFF | TS Radio Link LOSS TS CID 10 BS on slot 11, BS name BU 10.5G
CRITICAL | 02/03/2004 10:05:57 | 10.0.15.90 | W3000 | OFF | All TSs Radio Link LOSS BS on slot 11, BS name BU 10.5G
Minor | 02/03/2004 10:05:58 | 10.0.15.90 | W3000 | ON | TS Radio Link LOSS TS CID 10 BS on slot 11, BS name BU 10.5G
CRITICAL | 02/03/2004 10:05:58 | 10.0.15.90 | W3000 | ON | All TSs Radio Link LOSS BS on slot 11, BS name BU 10.5G
Minor | 02/03/2004 10:06:00 | 10.0.15.90 | W3000 | OFF | TS Radio Link LOSS TS CID 10 BS on slot 11, BS name BU 10.5G
CRITICAL | 02/03/2004 10:06:00 | 10.0.15.90 | W3000 | OFF | All TSs Radio Link LOSS BS on slot 11, BS name BU 10.5G
Minor | 02/03/2004 10:06:03 | 10.0.15.90 | W3000 | ON | TS Radio Link LOSS TS CID 10 BS on slot 11, BS name BU 10.5G
CRITICAL | 02/03/2004 10:06:03 | 10.0.15.90 | W3000 | ON | All TSs Radio Link LOSS BS on slot 11, BS name BU 10.5G
Warning | 02/03/2004 10:06:59 | 10.0.15.241 | W3000 | ON | Software Download started 12*E1 on slot 11
Major | 02/03/2004 10:07:38 | 10.0.35.104 | W3000 | ON | E1 Interface is Changed BU SA
Major | 02/03/2004 10:07:38 | 10.0.35.104 | W3000 | ON | Service Status is Disabled/Down BU SA
Normal | 02/03/2004 10:07:39 | 10.0.35.104 | W3000 | ON | E1 Interface is Changed TS CID 1000
Close
Refresh
Trap File
Save File
Help

3 In the *Actions* menu, select **Get Active Alarms**.

In the *WALKair Alarms Monitor* window, the latest alarms for the selected device are displayed (example shown below).

Figure 12-7: Returned Active Alarms - WALKair Alarms Monitor



Severity	Date/Time	Source	Device	Status	Message
Major	02/03/2004 10:27:18	10.0.15.241	W3000	OFF	Telecom Interface is Changed Ethernet Port 1 is Down TS: BS slot 2, BS na
Major	02/03/2004 10:27:41	10.0.15.90	W3000	ON	IFU Connection is Lost BS on slot 11, BS name 1
Major	02/03/2004 10:28:08	10.0.15.90	W3000	OFF	IFU Connection is Found BS on slot 11, BS name 1
Warning	02/03/2004 10:29:16	10.0.15.241	W3000	ON	Software Download started BS on slot 2, BS name BU Slot - 2
Warning	02/03/2004 10:29:50	10.0.15.241	W3000	OFF	Software Download started BS on slot 2, BS name BU Slot - 2
Minor	02/03/2004 10:29:50	10.0.15.241	W3000	ON	Software Download failed BS on slot 2, BS name BU Slot - 2
Warning	02/03/2004 10:30:01	10.0.15.241	W3000	ON	Software Download started TS: BS slot 2, BS name BU Slot - 2, TS CID 100
Warning	02/03/2004 10:30:17	10.0.15.241	W3000	ON	LCI Access is Detected LCI Access MPU
Warning	02/03/2004 10:30:21	10.0.15.241	W3000	OFF	Software Download started TS: BS slot 2, BS name BU Slot - 2, TS CID 100
Minor	02/03/2004 10:30:21	10.0.15.241	W3000	ON	Software Download failed TS: BS slot 2, BS name BU Slot - 2, TS CID 1003
Warning	02/03/2004 10:32:32	10.0.15.241	W3000	ON	Software Download started BS on slot 2, BS name BU Slot - 2
Warning	02/03/2004 10:33:29	10.0.15.241	W3000	OFF	Software Download started BS on slot 2, BS name BU Slot - 2
Warning	02/03/2004 10:34:41	10.0.15.241	W3000	ON	Software Download started TS: BS slot 2, BS name BU Slot - 2, TS CID 100
Major	02/03/2004 10:54:04	10.0.15.59	W3000	ON	Clock is Changed System Running On Free Clock MPU
Major	02/03/2004 10:54:04	10.0.15.59	W3000	ON	Shelf is Changed Acm failed HSC
Minor	02/03/2004 10:54:05	10.0.15.59	W3000	ON	Clock is Changed Master Clock Link Failed MPU
Minor	02/03/2004 10:54:05	10.0.15.59	W3000	ON	Clock is Changed Master Clock Card Failed MPU
Normal	02/03/2004 10:54:05	10.0.15.59	W3000	ON	Clock is Changed Redundent Clock Link Failed MPU
Normal	02/03/2004 10:54:05	10.0.15.59	W3000	ON	Clock is Changed Redundent Clock Card Failed MPU
Warning	02/03/2004 10:54:05	10.0.15.59	W3000	ON	Shelf is Changed Slot no. 5 MPU

To view the update in the WALKair Alarms History window, click on the Refresh Refresh button.

Requesting Active Alarms from Sector View

Accessing *Sector View* is similar for WALKair 3000 and WALKair 1000 BS-BUs, and is described below. The following procedures also include cases for mixed WALKair 1000 and WALKair 3000 sectors.

Accessing Sector View

To access Sector View:

1 Access *Sector View* in one of the following ways:

- ◇ In the Network Navigation Tree, by double-clicking a sector node.
- ◇ In Cell View, by double-clicking a sector in the **List of sectors**.
- ◇ In Cell View, by selecting a sector in the **List of sectors**, and selecting **View** from the *Sector* menu.
- ◇ In the Main window, by selecting **Sector** from the *Configuration* menu, or clicking **View Sector** in the toolbar. Then browsing to the required sector in the *Browse Sector* dialog box, and clicking **OK**.

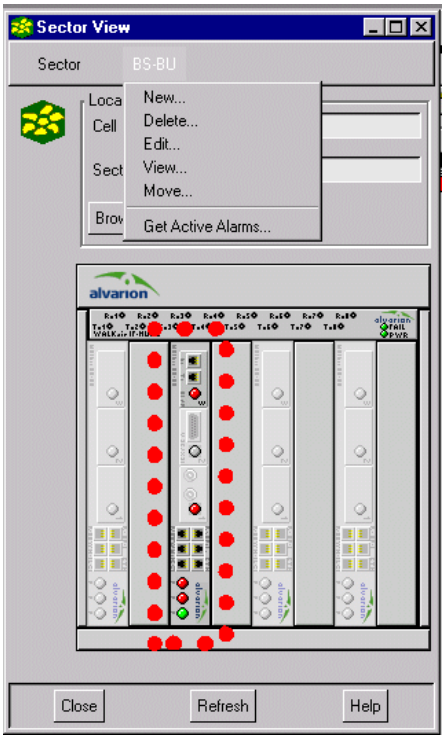
Sector View for the selected sector is displayed.

Requesting Alarms from a WALKair 1000 BS-BU

To request alarms from a WALKair 1000 BS-BU:

1 Access *Sector View* (see "Accessing Sector View" on page 12-19).

Figure 12-8: W1000 Sector View - Selecting W1000 BS-BU



2 In *Sector View*, click on the WALKair 1000 BS-BU you want to display alarms for.

3 From the *BS-BU* menu, select *Get Active Alarms*.

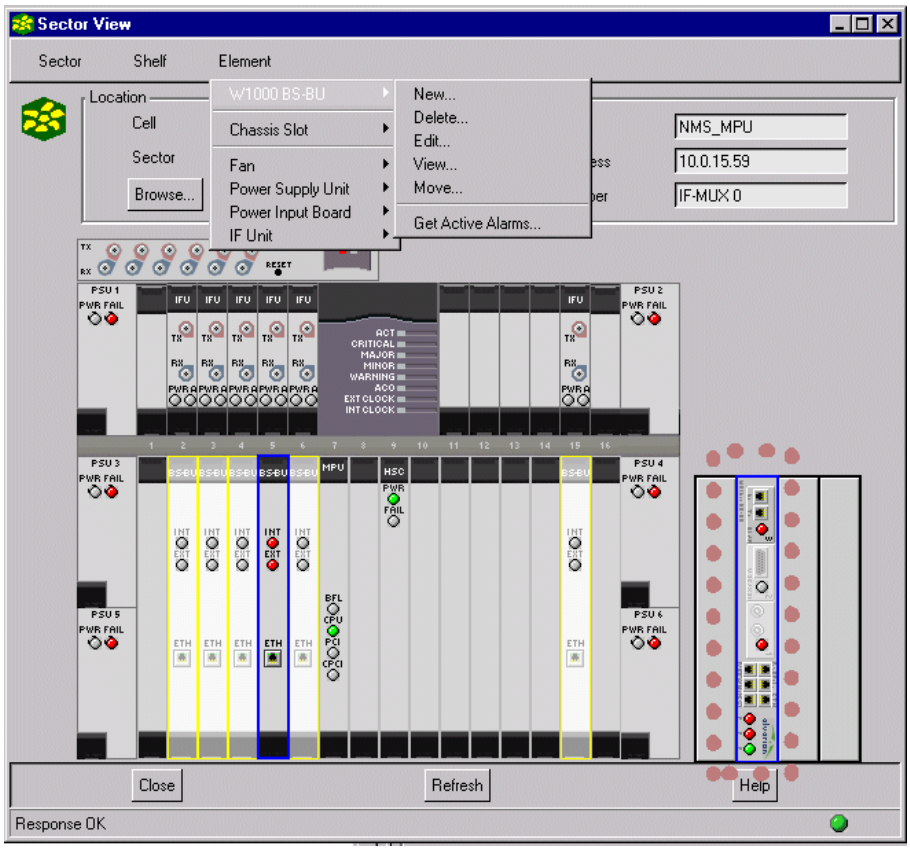
In the *WALKair Alarms Monitor* window, the latest alarms for the selected device are displayed.

Requesting Alarms from a WALKair 1000 BS-BU (Mixed Sector with WALKair 3000 Shelf)

To request alarms from a WALKair 1000 BS-BU (Mixed Sector with WALKair 3000 Shelf):

1 Access *Sector View* (see "Accessing Sector View" on page 12-19).

Figure 12-9: W1000/W 3000 Shelf - Sector View



2 In *Sector View*, click on the WALKair 1000 BS-BU you want to display alarms for.

3 From the *Element* menu, select *W1000 BS-BU*, **Get Active Alarms**.

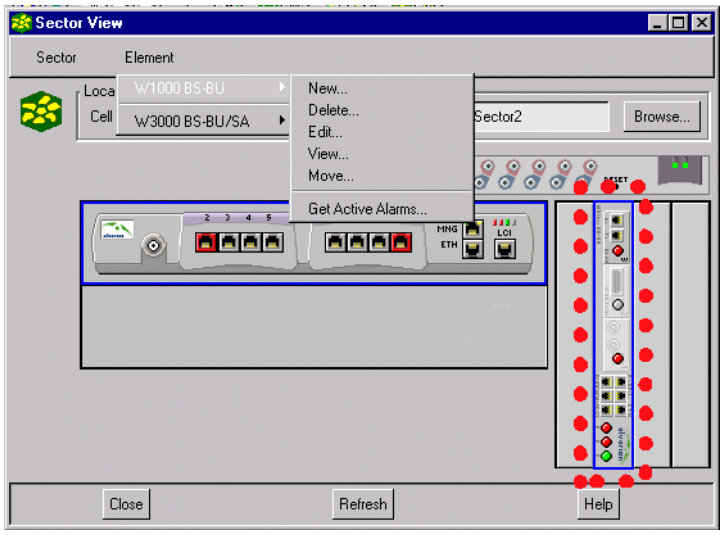
In the *WALKair Alarms Monitor* window, the latest alarms for the selected device are displayed.

Requesting Alarms from a WALKair 1000 BS-BU (Mixed Sector with WALKair 3000 Stand-Alone BS-BU)

To request alarms from a WALKair 1000 BS-BU (Mixed Sector with WALKair 3000 Stand-Alone BS-BU:

1 Access *Sector View* (see "Accessing Sector View" on page 12-19).

Figure 12-10: W1000/W 3000 Stand-Alone Sector View



2 In *Sector View*, click on the WALKair 1000 BS-BU you want to display alarms for.

3 From the *W1000 BS-BU* menu, select *W1000 BS-BU*, **Get Active Alarms**.

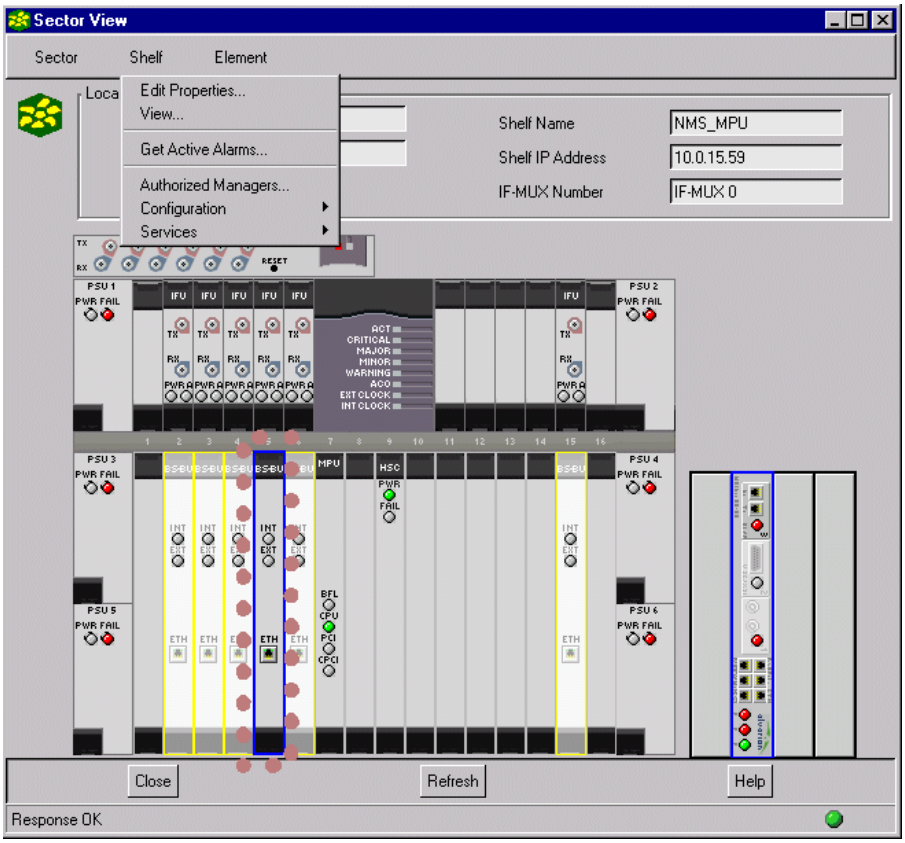
In the *WALKair Alarms Monitor* window, the latest alarms for the selected device are displayed.

Requesting Alarms from a WALKair 3000 Shelf BS-BU

To request alarms from a WALKair 3000 Shelf BS-BU:

1 Access *Sector View* (see "Accessing Sector View" on page 12-19).

Figure 12-11: W3000 Shelf Sector View



2 In *Sector View*, click on the WALKair 3000 Shelf BS-BU you want to display alarms for.

3 From the *Shelf* menu, select **Get Active Alarms**.

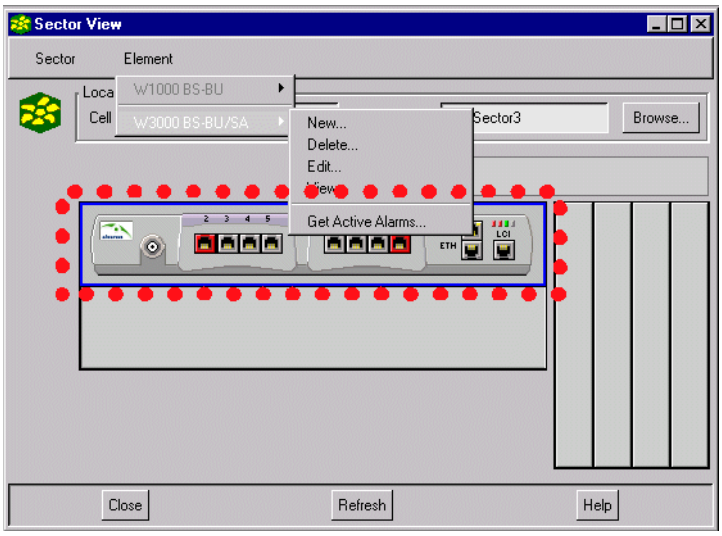
In the *WALKair Alarms Monitor* window, the latest alarms for the selected device are displayed.

Requesting Alarms from a WALKair 3000 Stand-Alone BS-BU

To request alarms from a WALKair 3000 Stand-Alone BS-BU:

1 Access *Sector View* (see "Accessing Sector View" on page 12-19)

Figure 12-12: W3000 Stand-Alone Sector View



2 In *Sector View*, click on the WALKair 3000 Stand-Alone BS-BU you want to display alarms for.

3 From the *Element* menu, select W1000 BS-BU, **Get Active Alarms**.

In the *WALKair Alarms Monitor* window, the latest alarms for the selected device are displayed.

Closing the WALKnet Alarm Browser Windows

To close the WALKair Alarms Monitor or Alarms History window:

Click on the Close button in the window.

A

Appendix A WALKair 1000 Trap Descriptions

In this Appendix

- WALkair 1000 traps associated with WALKnet

Trap Type	Description
E1 Local Loopback ON/OFF	This Trap is sent when the E1 telecom interface enters/exits the Local Loopback state.
E1 Remote Payload ON/OFF	This Trap is sent when the E1 telecom interface enters/exits the Remote Loopback state.
E1 Payload Loopback ON/OFF	This Trap is sent when the E1 telecom interface enters/exits the Payload Loopback state.
E1 Channel Loopback ON/OFF	This Trap is sent when the E1 telecom interface enters/exits the Channel Loopback state.
Telecom Disabled/Enabled	This Trap is sent when the operational status of the telecom interface becomes Disabled/Enabled.
E1 Alarm Indication Signal ON/OFF	This Trap is sent when the AIS is detected/terminated on the E1 interface.
E1 Loss of Frame Alignment ON/OFF	This Trap is sent when the LFA is detected/terminated on the E1 interface.
E1 Loss of Signal ON/OFF	This Trap is sent when the LOS is detected/terminated on the E1 interface.
E1 Loss of Multiframe AlignmentON\OFF	This Trap is sent when the LMFA is detected/terminated on the E1 interface.
E1 Remote Alarm Indication CRC ON/OFF	This Trap is sent when the RAI and CRC errors are detected/terminated on the E1 interface.
E1 Remote Alarm Indication ON/OFF	This Trap is sent when the RAI is detected/terminated on the E1 interface.
Telecom IF Fault ON/OFF	This Trap is sent when a telecom interface fault is detected/terminated.
BU Disabled/Enabled	This Trap is sent when the BS-BU operational status becomes Disabled/Enabled.
Diagnostic RAM Fault ON/OFF	This Trap is sent when a RAM test fault is detected/a RAM test is passed.
Diagnostic E2PROM Fault ON/OFF	This Trap is sent when an E2PROM test fault is detected/an E2PROM test is passed.

Trap Type	Description
Diagnostic Flash Fault ON/OFF	This Trap is sent when a Flash memory test fault is detected/a Flash memory test is passed.
Diagnostic Matrix Fault ON/OFF	This Trap is sent when a Matrix test fault is detected/a Matrix test is passed.
Diagnostic S/W Version Fault ON/OFF	This Trap is sent when the wrong software version is detected/the software version test is passed.
Diagnostic ORCA Fault ON/OFF	This Trap is sent when the ORCA test fails/the ORCA test passes.
Diagnostic DSP Fault ON/OFF	This Trap is sent when the DSP test fails/the DSP test passes.
Illegal Service Configuration ON/OFF	This Trap is sent when an illegal service configuration is detected/when service configuration is OK.
Radio Link Interference ON/OFF	This Trap is sent when radio link interference is detected by the BS-BU/the radio link interference condition is terminated.
Radio Link Loss ON/OFF	This Trap is sent when the BS-BU detects the loss of the Downlink/radio link establishment.
Most TS Radio Link Loss ON/OFF	This Trap is sent when the BS-BU detects the loss of the radio link with more than 50% of the TS-BUs/the Most TS Radio Link Loss condition terminated.
TS Radio Link Loss ON/OFF	This Trap is sent when the BS-BU detects the loss of the radio link with one of the TS-BUs registered with it/the TS-BU Radio Link Loss condition terminated.
IFU Lock ON/OFF	This Trap is sent when the IF synthesizer fails to lock on the frequency set on the synthesizer/the IFU Lock condition terminated.
RFU Power Loss ON/OFF	This Trap is sent when an RFU power loss is detected/terminated.
Serv Not Ack ON/OFF	This Trap is sent when the acknowledgment for service configuration was not received from the TS-BU/was received from the TS-BU.
Software Download Start/End	This Trap is sent when the software download process is started/completed.

Trap Type	Description
Software Download Abort	This Trap is sent when the software download process is aborted.
Switch Version Failed ON/OFF	This Trap is sent when the switch between the current and standby software versions fails/succeeds.
Isdi Loss of ClockON/OFF	This Trap is sent when a V.35/X.21 interface clock loss is detected/interface recovered from loss.
Telecom If Board LoopbackON/OFF	This Trap is sent when the telecom interface Board loopback is activated/removed.
Telecom If Matrix Remote Loopback ON/OFF	This Trap is sent when the telecom interface Matrix loopback is activated/removed.
Telecom If Type Does Not Match ON/OFF	This Trap is sent when the actual telecom interface type does not match the configured type/the mismatch condition is terminated.
Telecom IfDown / UP	This Trap is sent when the telecom interface operational state is down/up.
Cpe Event	This Trap is sent when the event is detected from the customer premises equipment connected to the TS-BU serial port.
V52 Link Id Failure	This Trap is sent when the V5.2 Link Id procedure fails.
V5 Restart Interface Fail	This Trap is sent when the restart of the V5 interface procedure fails.
IF Mux Connected/Disconnected	This Trap is sent when an IF Mux connection/disconnection is detected.
RFU Redundancy Cable Connected/Disconnected	This Trap is sent when an RFU redundancy cable connection/disconnection is detected.
RFU A Failed	This Trap is sent when an RFU A failure is detected.
RFU B Failed	This Trap is sent when an RFU B failure is detected.
ODU Switching Failed	This Trap is sent when switching to the redundant RFU fails.

Trap Type	Description
ODU Switching To RFU A	This Trap is sent when switching from RFU B to RFU A occurrs.
ODU Switching To RFU B	This Trap is sent when switching from RFU A to RFU B occurrs.
Configuration Download Start	This Trap is sent when the configuration download process is started.
Configuration Download End	This Trap is sent when the configuration download process is finished.
Configuration Download Abort	This Trap is sent when the configuration download process is aborted.
Reset Required	This Trap is sent when the configuration download process is finished and the user is trying to change WALKair parameters.
Phys If Conf Mis-match	This trap is sent when the configuration of the physical port does not match the logical interface defined over this port.
External Attenua-tor Value Changed	This trap is sent when the recommended value of the external attenuator is changed.
BU Office Clock Failure ON/OFF	This trap is sent from the BS-BU when external clock source is selected and failed/is unselected after the fail-ure or has recovered from the failure.
QBRI U-interface LOS ON/OFF	This trap is sent when LOS is detected/terminated on a QBRI port U-interface.
QBRI T-interface LOS ON/OFF	This trap is sent when LOS is detected/terminated on a QBRI port T-interface.
QBRI Power Feeding Failure ON/OFF	This trap is sent when QBRI port U-interface power feeding failure/recovery is detected.
qtlcm Local Loopback ON/OFF	ON - This trap is sent when local loopback is defined on the U-Interface. buAlrmData contains the Port# and U-Interface.OFF - This trap is sent when local loop-back is removed on the U-Interface. buAlrmData con-tains the Port# and U-Interface#.

Trap Type	Description
qtlcm Remote Loopback ON/OFF	ON - This trap is sent when remote loopback is defined on the U-Interface. buAlrmData contains the Port# and U-Interface#.OFF - This trap is sent when remote loopback is removed on the U-Interface. buAlrmData contains the Port# and U-Interface#.
qtlcm Payload Loopback ON/OFF	ON - This trap is sent when payload loopback is defined on the U-Interface. buAlrmData contains the Port# and U-Interface#.OFF - This trap is sent when payload loopback is removed on the U-Interface. buAlrmData contains the Port# and U-Interface#.
qtlcm Repeater Loopback ON/OFF	ON - This trap is sent when repeater loopback is defined on the U-Interface. buAlrmData contains the Port# and U-Interface#.OFF - This trap is sent when repeater loopback is removed on the U-Interface. buAlrmData contains the Port# and U-Interface#.
qtlcm Operational Status ON/OFF	ON - This trap is sent when operational status of U-Interface is Up. buAlrmData contains the Port# and U-Interface#.OFF - This trap is sent when operational status of U-Interface is down. buAlrmData contains the Port# and U-Interface#.
Diagnostics-IntFaultON/OFF	ON - This trap is sent when a U-Interface# or Analog line# test fault is detected. This trap is sent when operational status of U-Interface is down. buAlrmData contains the Port# and Analog Line# or U-InterfaceOFF - This trap is sent when U-Interface# or Analog line# test passed
QtlcmPresistent-PowerAlarmON/OFF	ON - This trap is sent when Persistent Power Alarm is detected on the QPOTS Analog line. buAlrmData contains the Port# and Analog line#.OFF - This trap is sent when recovery from the Persistent Power Alarm is detected on the QPOTS Analog-line. buAlrmData contains the Port# and Analog-line#.
qtlcmTransient-PowerAlarm	This trap is sent when a Transient Power Alarm is detected on the QPOTS Analog line. buAlrmData contains the Port# and Analog line#.

A

B

Appendix B WALKair 3000 Trap Descriptions

In this Appendix

- "General Comments" on page B-2
- "Telecom Interface Traps" on page B-3
- "E1 Port / Services Traps" on page B-4
- "E3 Port / Services Traps" on page B-5
- "STM1 Port / Services Traps" on page B-7
- "Devices Traps" on page B-8
- "IFU Traps" on page B-10
- "Radio Link Traps" on page B-11
- "RFU Traps" on page B-12
- "IF MUX Traps" on page B-13
- "Software Traps" on page B-14
- "Configuration Traps" on page B-16
- "Sector Traps" on page B-17
- "MPU Communication Traps" on page B-18
- "Shelf Traps" on page B-19
- "BS-BU Redundancy Traps" on page B-21
- "Service/SLA/Client Traps" on page B-22
- "Clock Control Traps" on page B-23
- "General Traps" on page B-25

General Comments

Traps are sent from MPU to the management stations according to the Trap manager list.

The variables attached to each trap are:

- BuAlrmType - contains the number of the trap transmitted when the alarm is ON
- BuAlrmSeverity - Alarm Severity (major(1), minor (2), warning (3), info(4),critical(5))
- BuAlrmState - Alarm State (on (1), off (2))
- BuAlrmData - The data string includes additional alarm information.
- trapSource- predefined string that represents the entity that transmitted the trap, or on behalf of which the trap is transmitted by the MPU.
- Note: The WALKnet application for HP Open View correlates Traps according to Trap numbers (in BuAlrmType), the information in BuAlrmData , trapSource.

Telecom Interface Traps

Trap Number	Trap Name in MIB	Send Criterion
1	TelecomIfChangedOn	Telecom interface fault is detected Telecom interface is operationally down Admin status of the telecom interface becomes enable
2	TelecomIfChangedOff	Telecom interface fault is terminated Telecom interface is operationally up Admin status of the telecom interface becomes enable

E1 Port / Services Traps

Trap No	Trap Name in MIB	Send Criterion
3	TelecomLoopbackOn	Telecom Interface enters the Local Loopback state
		Telecom Interface enters the Remote Loopback state
		Telecom Interface enters the Payload Loopback state
4	TelecomLoopbackOff	Telecom Interface exits the Local Loopback state
		Telecom Interface exits the Remote Loopback state
		Telecom Interface exits the Payload Loopback state
5	E1IfChangedOn	LOS is detected on the E1 interface
		LFA is detected on the E1 interface
		LMFA is detected on the E1 interface
		Multiframe is not detected on the E1 interface after double-frame sync.
		AIS is detected on the E1 interface
		RAI is detected on the E1 interface
6	E1IfChangedOFF	LOS is terminated on the E1 interface
		LFA is terminated on the E1 interface
		LMFA is terminated on the E1 interface
		Multiframe is detected on the E1 interface
		AIS terminated on the E1 interface
		RAI is terminated on the E1 interface

E3 Port / Services Traps

Trap Number	Trap Name in MIB	Send Criterion
7	E3LoopOn	The E3 interface is in facility loopback (towards ATM) state. The E3 interface is in terminal loopback (towards W3K) state.
8	E3LoopOff	The facility loopback (towards ATM) is removed from the E3 interface The terminal loopback (towards W3K) is removed from the E3 interface
9	E3IfChangedOn	SLOS is detected on the E3 interface RAI is detected on the E3 interface OOF is detected on the E3 interface LOF is detected on the E3 interface PLCP OOF is detected on the E3 interface PLCP LOF is detected on the E3 interface PLCP RAI is detected on the E3 interface PLCP Framing Error is detected on the E3 interface Loss of Cell Delineation is detected on the E3 interface AIS is detected on the E3 interface

Trap Number	Trap Name in MIB	Send Criterion
10	E3IfChangedOff	SLOS is terminated on the E3 interface RAI is terminated on the E3 interface OOF is terminated on the E3 interface LOF is terminated on the E3 interface PLCP OOF is terminated on the E3 interface PLCP LOF is terminated on the E3 interface PLCP RAI is terminated on the E3 interface PLCP Framing Error is terminated on the E3 interface Loss of Cell Delineation condition is terminated on the E3 interface AIS is terminated on the E3 interface

STM1 Port / Services Traps

Trap Number	Trap Name in MIB	Send Criterion
11	STM1LoopOn	The STM1 interface is in facility loopback (towards ATM) state. The STM1 interface is in terminal loopback (towards W3K) state.
12	STM1LoopOff	The facility loopback (towards ATM) is removed from the STM1 interface The terminal loopback (towards W3K) is removed from the STM1 interface
13	STM1IfChangedOn	SLOS is detected on the STM1 interface PRDI is detected on the STM1 interface LRDI is detected on the STM1 interface SOOF is detected on the STM1 interface SLOF is detected on the STM1 interface PAIS is detected on the STM1 interface LAIS is detected on the STM1 interface PLOP is detected on the STM1 interface PSLM is detected on the STM1 interface
14	STM1IfChangedOff	SLOS is terminated on the STM1 interface PRDI is terminated on the STM1 interface LRDI is terminated on the STM1 interface SOOF is terminated on the STM1 interface SLOF is terminated on the STM1 interface PAIS is terminated on the STM1 interface LAIS is terminated on the STM1 interface PLOP is terminated on the STM1 interface PSLM is terminated on the STM1 interface

Devices Traps

Trap Number	Trap Name in MIB	Send Criterion
15	DeviceStatusOn	BS admin status became disable TS admin status became disable NIU admin status became disable IF MUX admin status became disable BS operational status became down TS operational status became down NIU operational status became down IF MUX operational status became down
16	DeviceStatusOff	BS admin status became enable TS admin status became enable NIU admin status became enable IF MUX admin status became enable BS operational status became up TS operational status became up NIU operational status became up IF MUX operational status became up
19	tsUlModChangeQAMtoQPSK	Modulation used by the TS in uplink has changed from QAM to QPSK
20	tsUlModChangeQPSKtoQAM	Modulation used by the TS in uplink has changed from QPSK to QAM
21	tsDlModChangeQAMtoQPSK	Modulation used by the TS in downlink has changed from QAM to QPSK
22	tsDlModChangeQPSKtoQAM	Modulation used by the TS in downlink has changed from QPSK to QAM

Hardware Traps

Trap Number	Trap Name in MIB	Send Criterion
23	diagnosticsFaultOn	HW fault is detected
		RAM test fault is detected
		FLASH test fault is detected
		FPGA test fault is detected
		SWITI test fault is detected
		MODEM test failed
		DSP test failed
		GALILEO test failed
		GALBRIDGE test failed
		FALC test failed
		Expansion card (E1/Eth) test failed
24	diagnosticsFaultOff	HW test passed successfully
		RAM test passed successfully
		FLASH test passed successfully
		FPGA test passed successfully
		SWITI test passed successfully
		MODEM test passed successfully
		DSP test passed successfully
		GALILEO test passed successfully
		GALBRIDGE test passed successfully
		FALC test passed successfully
		Expansion card (E1/Eth) test passed successfully

IFU Traps

Trap Number	Trap Name in MIB	Send Criterion
25	ifuConnLostOn	Connection between BU and IFU is lost Connection between IF-MUX and IFU is lost
26	ifuConnLostOff	Connection between BU and IFU is OK Connection between IF-MUX and IFU is OK
27	ifuLockOn	IF synthesizer failed to lock on the frequency set on the synthesizer
28	ifuLockOff	IFU Lock condition terminated

Radio Link Traps

Trap Number	Trap Name in MIB	Send Criterion
29	RadioLinkLossOn	BS detected loss of the radio link with one of TSs registered with it
30	RadioLinkLossOff	TsRadioLinkLoss condition is terminated
31	mostTsRadioLinkLossOn	BS detected loss of the radio link with more then 50% of TSs
32	mostTsRadioLinkLossOff	mostTsRadioLinkLoss condition is terminated
33	allTsRadioLinkLossOn	BS detected loss of all radio links with TSs
34	allTsRadioLinkLossOff	allTsRadioLinkLoss condition is terminated
35	RadioLinkBEROn	Accumulated Radio Link BER of a BU exceeds Threshold 1 Accumulated Radio Link BER of a BU exceeds Threshold 2
36	RadioLinkBEROff	Accumulated Radio Link BER of a BU is below Threshold 1 Accumulated Radio Link BER of a BU is below Threshold 2

RFU Traps

Trap Number	Trap Name in MIB	Send Criterion
37	rfuChangeedOn	RFU power loss is detected
		RFU power sense fault is detected
		RFU A failure is detected
		RFU B failure is detected
38	rfuChangeedOff	RFU power loss is terminated
		RFU power sense is OK
		MPU detected that RFU A is operational
		MPU detected that RFU B is operational
39	oduSwitching	Switching from RFU B to RFU A occurred
		Switching from RFU A to RFU B occurred
40	externAttenValueChanged	Recommended value of the external attenuator is changed

IF MUX Traps

See the “IFU Traps” on page B-10 and “Devices Traps” on page B-8.

Software Traps

Trap Number	Trap Name in MIB	Send Criterion
41	softwarewDownloadOn	Software download process is started
		Software download process has failed
		Software download process is aborted
42	softwarewDownloadOff	Software download process is finished succeeded
		Software download failure is cleared after successful download
		Software download abort is cleared after successful download
43	diagnosticsSwOn	Software version fault is detected
		Unsupported Software version is detected
44	diagnosticsSwOff	Software version test passed successfully
		Supported Software version is detected
45	switchVersionOn	Switching between the current and the standby software versions started
		Switching between the current and the standby software versions failed

Trap Number	Trap Name in MIB	Send Criterion
46	switchVersionOff	Switching between current and standby software versions succeeded
		Switching version “failed” alarm cleared after successful switch
47	configurationDownloadOn	Configuration download process started
		Configuration download process has failed
48	configurationDownloadOff	Configuration download process succeeded
		Configuration download “failed” alarm cleared after successful download.
49	resetRequired	Configuration download is finished and user is trying to change parameters
50	InvalidConfigurationFile	MPU detected invalid configuration file

Configuration Traps

Trap Number	Trap Name in MIB	Send Criterion
51	DeviceConfMismatchOn	TS configuration does not match the TS Type
		BS configuration does not match the BS Type
52	DeviceConfMismatchOff	TS configuration match the TS Type
		BS configuration match the BS Type
53	ServiceConfigurationOn	Illegal service configuration is detected
		Service configuration was not acked
54	ServiceConfigurationOff	service configuration is OK
		Service configuration was acked

Sector Traps

Trap Number	Trap Name in MIB	Send Criterion
55	SectorDownOn	Sector A is operationally down
		Sector B is operationally down
56	SectorDownOff	Sector A is operationally up
		Sector B is operationally up

MPU Communication Traps

Trap Number	Trap Name in MIB	Send Criterion
57	connectionToMpuLostOn	MPU detected NIU connection Error
		MPU detected BU connection Error
		MPU detected TS connection Error
		MPU detected IF-MUX connection Error
58	connectionToMpuLostOn	MPU terminated NIU connection Error
		MPU terminated BU connection Error
		MPU terminated TS connection Error
		MPU detected IF-MUX connection Error

Shelf Traps

Trap Number	Trap Name in MIB	Send Criterion
59	BusErrorOn	MPU detected TDM bus Error
		MPU detected PCI Allocation Fault
60	BusErrorOff	MPU terminated TDM bus Error
		MPU terminated PCI Allocation Fault
61	shelfcCangeOn	MPU detected card extraction at a PCI slot
		MPU detected a fault in a Power Supply Unit
		MPU detected a failure in the power supply for the shelf
		MPU detected a fault in a shelf Fan
		MPU detected that the shelf is over-heated
		MPU detected a fault in the Alarm and Control Module
62	shelfcCangeOff	MPU detected card insertion at a PCI slot
		MPU detected that the Power Supply Unit is operational
		MPU detected that the power supply for the shelf is OK

Trap Number	Trap Name in MIB	Send Criterion
		MPU detected a that the Fan is operational.
		MPU detected that self temperature is OK
		MPU detected that the Alarm and Control Module is operational
63	DryContactOn	MPU detected that a dry-contact input is On.
		MPU detected that a dry-contact output is On
64	DryContactOff	MPU detected that a dry-contact input is Off
		MPU detected that a dry-contact output is Off

BS-BU Redundancy Traps

Trap Number	Trap Name in MIB	Send Criterion
65	RedundantBuOn	The MPU detected a fault in a redundant BU.
		The MPU detected the redundant BU (for a sector) is currently occupied.
66	RedundantBuOff	The MPU detected that the redundant BU is OK.
		The MPU detected the redundant BU (for a sector) is free.
67	buSwitchingToRedundant	The MPU started switching to the redundant BU.

Service/SLA/Client Traps

Trap Number	Trap Name in MIB	Send Criterion
70	SlaStatusOn	An SLA is operationally down
71	SlaStatusOff	An SLA is operationally up
78	ServiceStatusOn	An Service is operationally down
		An Service is Admin-disabled
79	ServiceStatusOff	An Service is operationally up
		An Service is Admin-enabled
80	ClientStatusOn	An Client is Admin-disabled
81	ClientStatusOff	An Client is Admin-enabled

Clock Control Traps

Trap Number	Trap Name in MIB	Send Criterion
72	ClockChangeOn	The BU is operating on internal clock Clock-control detected that the Master Clock Card has failed Clock-control detected that the Master Clock Link has failed Clock-control detected that the Redundant Clock Card has failed Clock-control detected that the Redundant Clock Link has failed Clock-control detected that the clock on bus A has failed Clock-control detected that the clock on bus B has failed Clock-control detected that both clocks on bus A and bus B failed Clock-control detected that the system is operating on free-running clock

Trap Number	Trap Name in MIB	Send Criterion
73	ClockChangeOff	The BU is operating on clock from the shelf Clock-control detected that the Master Clock Card has failed Clock-control detected that the Master Clock Link is operational Clock-control detected that the Redundant Clock Card is operational Clock-control detected that the Redundant Clock Link is operational Clock-control detected that the clock on bus A is OK Clock-control detected that the clock on bus B is OK Clock-control detected that at least one of the clocks (bus A or bus B) is OK Clock-control detected that system is operating on valid (from telecom) clock

General Traps

Trap Number	Trap Name in MIB	Send Criterion
75	LciAccessOn	An access via LCI was detected An unauthorized access attempt via LCI (multiple wrong password) was detected
76	LciAccessOff	LCI access was terminated
77	DeviceReset	Device is about to perform a reset

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C

Appendix C WALKair 1000 Error Messages

In this Appendix

This appendix describes the errors issued by WALKnet.

WALKair 1000 Error Messages

WALKnet issues a specific error message when the system receives errors from a device. The message contains error codes:

- "Change Configured Port Type" on page C-4
- "E1 Port Configuration" on page C-4
- "V35/X21 Port Configuration" on page C-5
- "Ethernet Port Configuration" on page C-5
- "QBRI Port Configuration" on page C-6
- "Arp Table" on page C-6
- "Telecom Card Versions and Reset Management" on page C-6
- "Leased Line Service" on page C-6
- "Add Leased Line Services" on page C-7
- "Edit Leased Line Services" on page C-8
- "V5 Interfaces" on page C-8
- "Add V5 Interfaces" on page C-8
- "Edit V5 Interfaces" on page C-9
- "Change V5 Interface Admin Status" on page C-9
- "Add V5 Subscribers" on page C-9
- "Delete V5 Subscriber" on page C-9
- "Add Frame Relay Port" on page C-10
- "Edit Frame Relay Port" on page C-10
- "Frame Relay Port Configuration (Delete Port)" on page C-11
- "Add Frame Relay Service" on page C-11
- "Edit Frame Relay Service" on page C-13
- "Frame Relay Service (Delete FR Service)" on page C-13
- "Add Authorized Manager" on page C-14
- "Edit Authorized Manager" on page C-14
- "Software Download" on page C-14
- "BS-BU Properties Edit" on page C-14
- "Terminal Properties Edit (Add New TS)" on page C-15

- "Terminal Station BU Properties Edit" on page C-15
- "Sector RFU and Antenna (No Redundancy)" on page C-15
- "Sector RFU and Antenna (Redundancy)" on page C-15
- "Terminal RFU and Antenna" on page C-16

Change Configured Port Type

Error Type	Description
110	Internal device problem.
111	Impossible to change type when there is an Enabled Service over this port.
112	If the Port type is Ethernet, you cannot change its type if there are DLCIs defined on this port.
113	If the Port type is changed to Ethernet, you will be unable to create FR LPort over Ethernet.

E1 Port Configuration

Error Type	Description
120	Change of port AdminStatus from "Enable" to "Disable" is allowed only if Service over this port is Disabled.
121	Incorrect physical configuration parameters. Verify consistence of E1SignallingMode and E1LineType setting.
122	Incorrect Loopback Mode. Only the following modes are valid: none, local, remote and payload.
123	Internal device problem.

V35/X21 Port Configuration

Error Type	Description
130	Change of port AdminStatus from "Enable" to "Disable" is allowed only if Service over this port (if exists) is Disabled.
131	Incorrect Loopback Mode. Only the following modes are valid: none, local, remote and payload.
132	Change of port AdminStatus to "Disable" is allowed only if Service over this port is Disabled.
133	Incorrect configuration of port parameters. Verify consistence of Interface Protocol, DataRate, OperatingMode, TimingMode, ClockMode and RxClockMode values.
134	Internal device problem.

Ethernet Port Configuration

Error Type	Description
140	Change of port AdminStatus to "Disable" is allowed only if Service over this port is Disabled.
141	Internal device problem.

QBRI Port Configuration

Error Type	Description
151	OperStatus must be "Down".
151	AdminStatus cannot be changed to "Enable" if detected port type is not QBRI.
152	Admin Status cannot be changed to "Disable" if QBRI Interface Admin Status is Enabled and Subscriber is defined over this Interface.
153	Internal device problem.

Arp Table

Error Type	Description
160	Internal device problem.

Telecom Card Versions and Reset Management

Error Type	Description
170	No connection with the card.

Leased Line Service

Error Type	Description
210	Service delete is allowed only if Service is disabled.

Add Leased Line Services

Error Type	Description
220	Invalid E1 Channels selected.
221	Inconsistent service configuration and telecom port configuration: Selected bandwidth does not match the rate on V.35/X.21 card.
222	E1Channels are being used by another service.
223	Inconsistent service configuration and telecom port configuration: ■ E1 channel #0 cannot be used if the E1 Mode is Transparent. ■ Only 32 E1 channels are allowed if the E1 Mode is Unframed. ■ E1 Channel #0 and E1 Channel #16 cannot be used if the E1 Mode is CCS
224	AdminStatus cannot be changed to "Enable" if the Telecom Interface AdminStatus is disabled.
225	AdminStatus cannot be changed to "Enable" if the Service Operational Status is Invalid.
226	AdminStatus cannot be changed to "Enable" - Device cannot allocate the bandwidth for this service on the BS/TS side.
227	The Service can be defined only over the E1 or V35/X21 configured Telecom port.
228	Inconsistent bit-rate between E1 and V35/X21 Telecom ports selected for the service.
229	Internal device problem.

Edit Leased Line Services

Error Type	Description
230	Inconsistent service configuration and Telecom port configuration: AdminStatus cannot be changed to "Enable" if the Service Operational Status is Invalid.
231	AdminStatus cannot be changed to "Enable" – E1Channels are not available for this Service.
232	AdminStatus cannot be changed to "Enable" if the Telecom Interface AdminStatus is Disabled.
233	Internal device problem.

V5 Interfaces

Error Type	Description
310	Internal device problem.
311	Delete Interface is allowed only when AdminStatus is "Disable" and OperStatus is "Out of Service".

Add V5 Interfaces

Error Type	Description
320	The E1 port is already in use by another service.
321	Invalid Telecom Ports configuration: if the port type is E1, only CCS Signaling mode is allowed.
322	Internal device problem.

Edit V5 Interfaces

Error Type	Description
330	The E1 port is already in use by another service.
331	Invalid Telecom Ports configuration: if the port type is E1, only CCS Signaling mode is allowed.
332	Internal device problem.

Change V5 Interface Admin Status

Error Type	Description
340	Internal device problem.

Add V5 Subscribers

Error Type	Description
410	Wrong L3 Address for ISDN subscriber; must be Integer between 0 and 8175.
411	Subscriber already exists.
412	Selected E1 channel is already in use by another service.
413	Internal device problem.

Delete V5 Subscriber

Error Type	Description
430	Delete is allowed if AdminStatus is "Disable", Operational Status is "Out of Service".
431	Internal device problem.

Add Frame Relay Port

Error Type	Description
510	Max number of FR LPorts is 20.
511	Illegal Signaling Protocol–ansiT1617B is not supported.
512	The FR Port is already used by another service.
513	Unable to allocate E1 Channels for the FR LPort.
514	Internal device problem.

Edit Frame Relay Port

Error Type	Description
520	Change is allowed only if FR Service over this port is Disabled.
521	Illegal Signaling Protocol – ansiT1617B is not supported
522	If Signaling Protocol is changed from "LMI" to another one, check that there is no DLCI(s) with a value of more then 991 defined on this port.
523	Incorrect setting: NetT392 must be greater than UserT391.
524	The FR Port is already used by another service.
525	Internal device problem.

Frame Relay Port Configuration (Delete Port)

Error Type	Description
530	There are DLCI(s) defined on this FR Logical Port.
531	Internal device problem.

Add Frame Relay Service

Error Type	Description
610	Internal device problem.
611	DLCI Value must be in range 16 to 991. If the Signaling protocol is "LMI", the range must be 16 to 1007.
612	Wrong "CIR", "BE" or "BC" value – must be in range 0 to Max Bandwidth.
613	Inconsistency between CIR and BC values.
614	Connection already exists.
615	No LPort is Defined on the selected port.
616	Invalid total Bandwidth on port–total Bandwidth on port should not be greater than 32/64 time slots (for 2 Mbps/4 Mbps card types correspondingly). Check CIR setting.
617	The LPort on TS side is participating in another FR Connection.
618	No more than 30 DLCIs are allowed on TS LPort.
619	Invalid Telecom Port Configuration.

6110	AdminStatus cannot be changed to "Enable": The Telecom Interface has to be enabled first.
6111	AdminStatus cannot be changed to "Enable": The Telecom Interface on TS side does not support 4 Mbps bandwidth.
6112	AdminStatus cannot be changed to "Enable": S CIR Exceeds either BS or TS Port Physical Rate.
6113	Default Gateway IP Address should not be: "00.00.00.00" or "255.255.255.255".
6114	IP Subnet should not be: "00.00.00.00" or "255.255.255.255".
6115	Local Router should not be "255.255.255.255".
6116	Subnet Mask must be continuing 1 and should not be: "255.255.255.254" or "255.255.255.255".

Edit Frame Relay Service

Error Type	Description
620	AdminStatus should be disabled.
621	Inconsistency between CIR and BC values.
622	Admin Status cannot be changed to “Enable”: The Telecom Interface on TS side does not support 4 Mbps bandwidth.
623	Invalid Telecom Port type.
624	AdminStatus cannot be changed to "Enable": The Telecom Interface has to be enabled first.
625	AdminStatus cannot be changed to "Enable": S CIR Exceed BS/TS Port Physical Rate.
626	Default Gateway IP Address should not be: "00.00.00.00" or "255.255.255.255".
627	IP Subnet should not be: "00.00.00.00" or "255.255.255.255".
628	Local Router should not be "255.255.255.255".
629	Subnet Mask must be continuing 1 and should not be: "255.255.255.254" or "255.255.255.255".
6210	Internal device problem.

Frame Relay Service (Delete FR Service)

Error Type	Description
630	Admin Status of the Connection must be Disabled.

Add Authorized Manager

Error Type	Description
710	Maximum 10 Managers can be defined.
711	Internal device problem.

Edit Authorized Manager

Error Type	Description
720	Internal device problem.

Software Download

Error Type	Description
810	Download cannot be started–Software Download TFTP session is already in OPEN state.
811	Software Download cannot be Aborted–Software Download TFTP session is already in CLOSE state.

BS-BU Properties Edit

Error Type	Description
910	Internal device problem.

Terminal Properties Edit (Add New TS)

Error Type	Description
920	Customer ID is already assigned to another Terminal Station on this BS-BU.
921	Internal device problem.

Terminal Station BU Properties Edit

Error Type	Description
930	Estimated BS-TS Distance can be changed only when TS AdminStatus is "Disable".
931	Internal device problem.

Sector RFU and Antenna (No Redundancy)

Error Type	Description
1010	The IF band is NOT valid for IF actual hardware card type.
1011	Internal device problem.

Sector RFU and Antenna (Redundancy)

Error Type	Description
1020	The IF band is NOT valid for IF actual hardware card type.
1021	Internal device problem.

Terminal RFU and Antenna

Error Type	Description
1030	The IF band is NOT valid for IF actual hardware card type.
1031	Internal device problem.